FROM TECHNOLOGY TO TECHNIQUE:

the implications of the written sign for language, cognition and learning, with particular reference to reading in a second language

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To
C. P. G.

"... vaster than empires, and more slow ... "

(Andrew Marvell)

Abstract

In cognitive accounts, language knowledge and learning are depicted as autonomous mental processes, governed by universal principles, and investigated by psychological experiment. However, individuals interact in social space, where language use is regulated by public norms, and embodied in activities, discourses and institutions which establish the criteria for meaning and understanding in a given context. The incompatibility of 'internal' and 'external' explanations is especially evident in relation to literate practices, including reading, whose origins are cultural and historical, which are nevertheless held to depend on specific cognitive processes, and to have consequences for individual cognitive development. This approach to reading detaches it from context, and, in effect, assumes that western forms of print literacy are timeless and universal. In relation to second language learning, it has made possible a notion of reading as 'exposure to language' which tends to disregard its contextual, discursive properties and its significance as a socially constructed activity.

This thesis presents a critique of 'technological' approaches to cognition, learning and literacy, with particular reference to reading in a second language. It argues that theories of this type belong to a recurrent attempt in the western tradition to establish a context-independent, 'alphabetic' concept of the sign, grounded in correspondence to a prior, ahistorical reality. Their evolution is traced through approaches to written language as representation of speech, the rise of the concept of literal meaning, the seventeenth century quest for a 'real' character to represent, hence disclose, the true constituents of natural phenomena, and the definition of autonomous text by exclusion of non-representational language. It is related to the rise of the notion of the brain as a machine for turning out exact representations (propositions, sentences), now embodied in cognitive approaches to language and learning, for which the computer has supplied the chief metaphor. Thus the 'alphabetic' concept of the sign has come to underlie current models of the reading process, in which comprehension is depicted as a private representation, the outcome of internal computational processes. In a related sense, it is argued, reading comprehension tests, based on the properties of the normal distribution, developed for use with large populations, have translated standardized forms of language and literate activity into the mental properties of readers; and, with the technological concepts of 'transfer', 'exposure' and 'input' derived from them, have again by-passed questions of meaning and understanding. As the basis for an approach to reading in language learning, therefore, it is argued that they are inadequately sensitive to context and hence unhelpful pedagogically.

An alternative, sociocultural view of reading is approached through examination of the debate over the implications of literacy as a 'technology of the intellect'. This view rests on an 'ideographic', non-representational concept of the sign, in which meaning and understanding are holistic, public, and contextually produced and located. It is argued that texts are embedded in historically evolving literate practices and associated techniques. These, acquired by children in learning to use the symbolic systems of a community, therefore assume a constitutive role in the development of their cognitive activities. In place of the usual opposition between competence and performance, this notion of practice enables the physical and social conditions of literacy, including reading, to be related to the mental processes and skills associated with it. This, it is argued, offers both a theoretically and educationally more constructive basis for approaches to reading and language learning, especially in culturally diverse contexts.

The contrast between technological and practice-orientated approaches to second language reading is then examined in relation to a survey of leisure reading activities conducted among junior secondary school students in Hong Kong, which provides evidence of a close association between their second language reading and existing, socially understood activities.

DECLARATION

In accordance with Regulation 3.8.7 of the programme of postgraduate study, I declare that this thesis has been composed entirely by myself, and that the work it contains is my own. With regard to the data presented in chapter 8, the questionnaire was designed by me in consultation with the Institute for Language in Education in Hong Kong; they translated and administered it, and performed the initial coding and entry into a database. All subsequent cleaning and analysis was my responsibility alone.

Martin Gill

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For the purposes of our studies it can never be essential that a symbolic phenomenon occurs in the mind and not on paper so that others can see it. One is constantly tempted to explain a symbolic process by a special psychological process; as if the mind 'could do much more in these matters' than signs can. We are misled by the idea of a mechanism that works in special media and so can explain special movements.

(Wittgenstein 1974:99)

1. INTRODUCTION

1.1 Reading in context

In a discussion of the arrival of literacy in New Zealand with the European missionaries, McKenzie quotes a number of their enthusiastic accounts of its progress, such as the following from an early history of the Catholic church in the region:

> [The Maoris] easily learn to read and write without the necessity of constant teaching. It is only necessary to give them a few leaflets of easy reading, and to write some characters on bits of slate to enable them to read and write their own language within three months.
>
> (quoted in McKenzie 1987:168)

Such accounts, McKenzie argues, involved a systematic misperception of Maori literacy. No doubt missionaries to the South Seas were predisposed to find evidence of their success; no doubt, also, the Maoris' oral culture made them adept at memorizing, and the missionaries' books were easily believed to possess special virtues. But, as McKenzie shows, even "after ten years of intensive teaching and five years of proselytic printing" (ibid.:180), their behaviour with texts was still far from that taken for granted by the Europeans. This was made tragically clear by their Chiefs' 'misunderstanding' of the import of signing the Treaty of Waitangi, which effectively ceded sovereignty over their territories to Queen Victoria.[1]

There are many lessons to draw from this example. In political terms, it reveals how the literate European assumption that final authority resides in the document itself can readily serve to legitimate colonial power, a weapon against which the non-literate have had no defence (cf also Goody 1986:156-7). As regards the study of reading, it highlights the dangers of dissociating the act of holding a book and running one's eyes over its pages, from the context in which this act occurs. What the Maoris were doing with their "leaflets of easy reading" was learning the relatively simple process of transcoding printed graphemes into their phonemic equivalents; and even this seems to have been less automatic than the missionary accounts suggested (McKenzie op. cit.:168). What they could not guess, however, was the significance that reading a text might have for the European settlers - for example, the legal and political implications of reading and signing a treaty. The only purposes to which reading was overtly related were those of the settlers' religion, and the necessity for text rather than memory in this case may have been unclear. As a result, without the context of beliefs, practices and institutions in which such purposes arise, the mere act of reading was meaningless to many of these early enthusiasts, and soon forgotten (McKenzie ibid.:178f).

It is a lesson that is also applicable to reading in a foreign language, and to the use of reading as a means of learning a foreign language, especially in settings where relevant cultural support is lacking. If such reading is merely thought to involve applying the principle of phoneme-grapheme

correspondence to the foreign symbol system, it will not be difficult to present a picture of early success and rapid progress. This was the basis of Michael West's approach, and one reason why he regarded a reading syllabus as potentially the most suitable for learners of English in settings like that of his Bengal reading project:

> These pupils can read! ... all [they have] to do is to transfer that skill to a new set of symbols. Thus when I learnt of my appointment to Bengal, I proceeded to learn to read Bengali. It was merely a matter of acquiring the sounds which corresponded to the various Bengali symbols.
>
> (West 1960:19)

In West's judgement, reading was the "easiest" aspect of language, and so the best way for less privileged young Bengalis to continue learning English after economic or other circumstances had forced them to drop out of regular schooling (cf West 1926:111). But he took no account of the asymmetry between his own sophisticated experience of the contexts and purposes of reading, which might well have suggested that no more was at issue than switching to the new set of symbols, and the experience that could be expected of such learners. This omission reflects the bias of contemporary behaviourist learning theory which formed the basis of West's optimistic picture. By confining its concept of learning to the formation of stimulus-response associations, behaviourism had little to say about learning to read beyond the establishment of automatic associations between written symbols and speech sounds, and suggested no reason for taking an interest in learners' reading purposes. However, it was hardly less likely than among the non-literate Maoris that reading, treated as mere transcoding, without a role in the learners' daily lives, would soon be abandoned.

However well-intentioned, externally imposed reading purposes will wither unless they connect with those that occupy the learners themselves. What first made literacy worthwhile to the Maoris was not the opportunity to read the Bible, but to write letters (McKenzie op. cit.:170); when, later, they took up printing the motive was not a religious one but the political and economic question of land: "only when literacy began to serve that supreme social interest could it be significantly achieved" (ibid.:171).[2] It was the main aim of the reading survey conducted among secondary school pupils in Hong Kong, discussed in chapter 8 below, to determine to what extent an English language reading scheme would relate to kinds of reading behaviour and purposes that had genuine significance for these learners; without assurance that it did so, a positive evaluation of its 'success' in promoting language learning could not be entirely convincing.

However, behind this lay a more theoretical question. If reading is inescapably contextual, can the language learning that is its goal be context-neutral, as the cognitive psychological emphasis in current language learning theories would suggest? No less than West's behaviourism, the cognitive

approach excludes those socially established aspects of human activity to which the context-dependent notions of purpose, meaning, intention, etc. normally attach, even though such notions are central to everyday psychological explanations. There would therefore seem to be a case for seeking to develop an approach to reading and language learning in which the boundaries between cognitive and social, between events 'inside the head' and those 'outside' it are less rigidly drawn. This, in essence, forms the project undertaken in this dissertation, and outlined further in the following pages.

1.2 Autonomous minds, cultural practices

1.2.1 The relation of social and psychological theories

It is usual to treat questions of language knowledge and learning as aspects of the internal, mental processes of the individual learner, governed by rules or laws that are universal and exceptionless (cf Chomsky 1988:62), although for the most part unconscious. As such, they are deemed to be accessible only by psychological experiment. By contrast, the facts of language use are assumed to belong to the external world of social interaction, loosely regulated by variable local norms, capable of being studied in natural contexts by methodologies largely derived from anthropology. The separation of the two domains has been institutionalized in the division between the social and the psychological, and the forms of explanation taken to be appropriate to each. This, in turn, has profoundly affected the organization and assessment of language education.

Yet private rule-following individuals necessarily interact in social space, properties of which therefore determine much of what needs to be included in any account of language ability. Problems arise explicitly in relation to those forms of activity whose origins are indubitably cultural (including literacy in general, or reading in particular), which are nevertheless held to have consequences for individual cognitive development. These cases make plain the incommensurability of theories in the two domains. For example, as a factor contributing to second language acquisition, reading is assumed in all essential respects to denote 'the same' skill or language function wherever it occurs; no reference is thought necessary to variation in cultural practice. Yet, from a sociocultural point of view, this assumption is unsustainable: readers' behaviour with texts is intimately shaped both by the various local cultural arrangements in which it is involved, and by specific visual characteristics of the written page (cf O'Keefe 1990:17). There would thus seem to be no point of contact between the two approaches. That this has rarely been noted as an obstacle to second language acquisition research reflects the relative standing of the explanations they offer, and, specifically, the assumption that observable behaviour can be reduced to underlying cognitive structures and processes. These, it is supposed, represent the most basic explanatory terms, just as physical laws provide the ultimate

explanation for the observable properties of the universe. It will be argued that this supposition is fundamentally mistaken.

It is the aim of this study to develop this critique with respect to reading and its role in second language learning, and to propose an alternative framework, in which this order of priorities is reversed; in which sociocultural facts enter the definition of cognitive phenomena and so form part of their explanation. It will concur with Harré's assertion that "human beings are constituted as people by their interpersonal relations" (Harré 1993:34), so that "most psychological phenomena are created in and have their primal being in social encounters" (ibid.:95). Our mental life and its capacities emerge in dialogue, and are only later, often only with difficulty, internalized. As such, they have a social and historical dimension that is denied by experiments that aim to establish the 'laws' of human cognition. For example, silent reading, despite its manifestly greater speed and efficiency, is far from being a universal norm but a comparatively recent development, hardly known in the medieval *scriptorium*. As Saenger argues: "Because particular cognitive processes enable today's reader to decipher the written page, it should not be assumed that these same cognitive approaches have been used throughout human history" (Saenger 1991:198). In reality, the mental 'processing skills' associated with it only followed changes in the physical and social conditions of text production and consumption (cf Toulmin 1979:6).

Such observations need to be incorporated into the account of thinking and learning if cross-cultural studies are to avoid taking the local cultural circumstances of the investigator to be the truth about the nature of all human beings and their capacities. Ultimately it will be necessary if we are to suppose a formative relation between the culturally produced means and settings for human development and the characteristics of what develops. As Rogoff remarks:

> Since development involves skills closely tied to the technology (e.g. books, number system, language, logic) of the culture that children learn to master with the assistance of others, it would be difficult to believe that there is <u>not</u> a relationship between sociocultural contexts and individual development.
>
> (Rogoff 1990:21; original emphasis)

1.2.2 The origins of this project

The motive to develop this line of thought arose from a plan to evaluate a scheme of extensive reading in Hong Kong schools. The aim of this scheme, consisting of packages of simplified readers, selected, graded and supplied, with ancillary materials, by the Edinburgh Project on Extensive Reading (EPER),[3] was to promote English language learning by increasing school pupils' exposure to English in attractive and comprehensible forms. Similar schemes designed by EPER had previously been implemented in a variety of settings, including Tanzania and the Maldives. The

Hong Kong scheme was initially to be introduced in 19 schools, rising to 200 by 1996, and required to show quantitative evidence of its success as a means of improving language learning. This made apparent the discrepancy between psycholinguistic and sociocultural approaches to reading, both in determining suitable evaluative criteria (what constitutes 'success'?), and in predicting and accounting for the potential 'effects' of the programme on its participants (how does it 'work'?). It became clear that these questions could not simply be regarded as a matter of methodological preference, but reflected irreconcilable differences of outlook on reading and language learning, among other things. A survey of relevant literature (cf chapter 5) showed that a majority of those who had discussed extensive reading in a second language saw it as a means to an end (that is, language learning), rather than an aspect of literate behaviour; but, given considerations such as those above, this seemed an inadequate basis on which to conceptualize its role in widely differing settings across the world. Moreover, if, as the objectives of the proposed evaluation implied, conclusions were to be drawn that related extensive reading in English to students' progress in learning the language, in particular if it was intended to throw any light on the general nature of learning by exposure to text, these differences in approach would need to be carefully examined.

This examination formed the basis for the work presented here, the rationale for which is discussed in the following sections. In relation to the Hong Kong Extensive Reading Scheme (ERS), a survey was designed to gain a picture of the normal reading activities of the students involved in it, and of the extent to which these influenced their use of the scheme. The results of this survey are considered in chapter 8.

1.3 Contrasting perspectives

1.3.1 The sociocultural basis of cognition

The 'sociocultural' position proposed here was first delineated, independently and in different ways, by Wittgenstein in his later work, Vygotsky and his collaborators, and Bakhtin, and was subsequently developed, in opposition to the monoliths of positivism and cognitivism, by scholars in a variety of fields. As such, it belongs to an already fully fledged and rapidly growing alternative orthodoxy, a "second cognitive revolution" (cf Shotter 1993:7; Harré and Gillett 1994:ch2), which has seen the advance of such views in many areas of psychological interest during the past decade. Language is fundamental to this view; not, however, the language system of linguistics, but the language of social discourse and interaction, the medium in which the human subject is defined. This was Wittgenstein's point when he observed that "To imagine a language means to imagine a form of life" (Wittgenstein 1953:8). It is only in and through such discourses, the result of cultural and historical development, that cognitive processes come to evolve. Harré and Gillett describe a 'discursive' psychology as: "a way of understanding the phenomena that arise when different

sociocultural discourses are integrated within an identifiable human individual situated in relation to those discourses" (Harré and Gillett op. cit.:22).

The study of literacy has become a particular focus for such work. Gee lists three respects in which the study of literacy from a sociocultural point of view offers a challenge to beliefs derived from cognitive psychology. It obliges us, he notes, to conclude (1) that thinking and speaking are not functions of individual minds but of social groups and their particular "Discourses";[4] (2) that literacy is not a private skill involving simply the ability to read and write but a social skill involving the ability to participate in one or more of the Discourses of a given group; and (3) that intelligence, knowledge, and aptitude are not states of individual minds (which, among other things, would imply that failure at school was at root an individual problem; cf also Goldman 1987:4) but bound up in the social practices of the groups to which individuals belong; standard measures of intelligence and aptitude detach aspects of these practices from their proper contexts and attribute them to individuals (Gee 1992:40-1).

1.3.2 Cognitive assumptions

Such ideas have begun to make some headway in second language contexts (for example, Hall 1993, 1995). But the influence of the first 'cognitive revolution' on explanatory theories in this area remains strong: it is still usual to treat human beings, or their cognitive faculties, as sophisticated automata, built to a standard pattern and specifically pre-programmed for many of their mature functions, notably language processing. Indeed, 'cognitivism' is nowhere less challenged than in theoretical accounts of second language acquisition, where Universal Grammar is influential. As a result, topics deserving serious consideration, including the role of written language and reading, have either been treated inadequately or ignored. Such a situation cannot be reconciled either with the complex sociolinguistic accounts of these same topics now emerging, or with the goal of applied linguistics to offer theoretically based guidance relevant to teachers in practical contexts.

However, the fact that 'cognitivist' assumptions belong largely to the field's unexamined background means that reorientation can neither be simple nor free from certain dangers (cf Shotter op. cit.:4). With powerful interests vested in cognitive models, and reinforced by the social and institutional structure of the research community, any alternative is likely to be viewed as marginal or dismissed as unscientific. It will therefore be necessary to offer a thorough theoretical justification of the 'sociocultural' approach. This is the object of these initial chapters. It will be argued that prevailing accounts of language and thought are saturated by assumptions derived from a particular (Aristotelian) understanding of their written (primarily alphabetic) manifestations. This theme is developed through a critical examination of the following interlinked premises as they bear on the production of current hypotheses about reading, learning and the relations between them:

(a) written language is a neutral, derivative symbolic system;
(b) ideal text is autonomous and self-interpreting;
(c) cognition consists of internal operations in a symbolic medium;
(d) reading is a function of private cognitive mechanisms;
(e) literacy is an acontextual 'technology';
(f) learning takes place individually and internally;
(g) hidden cognitive structures and processes may be revealed by experimental methods.

1.3.3 'Autonomous' versus 'contextual' explanations

Since antiquity, there has been constant tension between the wish to regard certain statements as true, 'literal', transhistorical representations, and the view that all statements are inextricably bound up with a context and therefore with a voice, a point of view and a history. For convenience, these epistemological approaches may be termed 'propositional' and 'rhetorical' respectively. In a fundamental sense the former are associated with notions of writing, the latter with those of speech: indeed, it would scarcely be an exaggeration to claim that this opposition runs to the roots of the western intellectual tradition (cf, for example, Grafton and Jardine 1986). The present is witnessing a powerful shift from propositional to rhetorical approaches, from a concern with truth to a concern with discourse, likewise from 'seeing' (i.e. copying) to 'reading' (i.e. interpreting) as the basic metaphor for understanding (cf Hoy 1985:52). In many fields, previously accepted truths are up for 'deconstruction' in pursuit of the rhetorical means by which they have projected their finality. The rise of sociocultural theories in various branches of psychology in opposition to positivism and cognitivism should be seen in relation to this wider phenomenon; so conceived, the lack of dialogue between the two is not hard to understand.

The contrast between propositional and rhetorical perspectives underlies Street's distinction between 'autonomous' and 'ideological' theories of literacy (for example, Street 1984; 1993; cf §6.2.5.2). In each case, those who adopt the former distinguish absolutely between matters of fact and matters of belief, between literal and figurative uses of language, etc. Those who adopt the latter point instead to the socially constructed, context- and discourse-relative nature of all descriptions, including those that claim scientific authority. There is clearly a basis for some distinction of this kind: the notion of 'autonomy' will be drawn on in the following chapters. Street's use of the term 'ideology', however, lays special emphasis on the recognition that claiming autonomy for certain discourses has often enabled more powerful, literate groups to define and control others that are less so. Though important, such issues tend to polarize and politicize the discussion; in particular, the implication that there are no non-ideological grounds for distinguishing the roles or consequences of speech and writing in a given society seems unwarranted (cf Larsen 1989:10; Biber 1995:449). In this discussion, therefore, the term 'contextual' will be preferred, to stress simply an alternative focus on

the role of cultural and historical contexts in constituting our discourses, including those in which accounts of the individual and individual psychological attributes are framed, and which cognitive psychology presents as autonomous.

Autonomy would seem to be justified, however, by the equation of cognition with information processing, that is, a set of operations that could, in theory, be run as well by a suitably programmed computer as by the human brain. The image of the machine as inherently acontextual is potent in a technological culture, and has given mental modelling confidence to claim that this is indeed the final metaphor (cf Johnson-Laird 1983:10; and chapter 4 note 4 below). For this reason, however, the machine itself needs to be given more careful attention.

1.3.4 'Technology' versus 'technique'

There is a close relationship between autonomous forms of explanation and the 'technological' means of producing them. The machine, abstractly understood, has served both to create and to naturalize the notions of context-free operation and exact reproduction on which belief in an independent, propositional world hinges. Experimental results can be generalized just to the extent that the methodology employed can be regarded as a logical machine for turning out true observations. Likewise, the idea that understanding between speakers, or between writer and reader, is a matter of their coming to possess 'the same' internal representations derives its notion of identity from the possibility of mechanical reproduction. Ultimately, it will be argued, such assumptions are consequences of the Aristotelian conception of written symbolism as a pairing of sign and object, such that, when symbolically transcribed, the world can be turned immediately into propositional form, to be duplicated and exchanged without reference to context or interpretation. At the heart of the modern cognitive machine is a programme written in symbols of this kind, to which, it is assumed, the complexities of thought and rational behaviour, including language behaviour, can be reduced without loss.

Thus 'technologized', the processes of cognition can be disembedded from the network of human relations, and treated as inherently individual and independent of the world on which they operate. It is in this way that the autonomous human agent has become the established unit of analysis in cognitive work, a mental machine that is fully explicable in terms of its internal workings and outputs. However, this conception of technology must be understood as a cultural product in its turn. As Ingold argues, the properties conventionally attributed to technology are ones which it has acquired through the habitual modern tendency to conflate the technical with the mechanical (cf Ingold 1990:7). Ingold draws a distinction between this mechanized technology and what he calls 'technique', characteristic of simpler societies. Technique is associated with tool use, and seeks to minimize the opposition between the human agent and his environment: "the tool delivers a force

that is personal rather than mechanical. Hence technical relations, far from being set apart from social relations, are embedded in them" (ibid.:7 original emphasis). The principal features of this distinction are summarized in Table 1.1 (cf Ingold ibid.: 8-9).

Table 1.1: Technique and technology contrasted

TECHNIQUE	TECHNOLOGY
tool	machine
uses hand, involves human agency	operation assigned to apparatus
training of body and mind	rational manipulation of exterior objects
heuristic	algorithmic
tacit, context-dependent	explicit, decontextualized
subjective knowledge	objective principles
social, communicative	individual, technical
practical 'knowledge how'	propositional[5] 'knowledge that'
not articulated in rules, symbols	symbolically encoded, rule governed
acquired through observation and imitation	transmitted in formal education
human at centre of labour process	human at periphery of labour process
worker as artisan	worker as operative
techne (skill)	'merely mechanical'
practice	competence
expressive	designative/representational[6]

It is Ingold's intention to make clear the danger of projecting this division back into history and prehistory. Transition to tool use did not initiate the separation of the social and the technical along modern lines; this position emerged instead through the process of technical evolution, which tended to objectify the forces of production, and so transform the relations between worker, tool and material (ibid.:11). This is relevant to the evaluation of current approaches to literacy and its consequences that define it as a 'technology of the intellect', in particular where it is held to 'work', like a machine, without reference to its context. (Similar assumptions are made with respect to other educational programmes and methods, etc. when they are applied to produce in some sense 'the same' results; cf chapter 5.) However, it will be clear that Ingold's analysis also helps to bring out the broader, technologizing tendencies of western, symbol-based thought; in particular, the way in which it serves to detach human cognitive processes from the social world in which they occur. The mental machine is thus more than just an apposite modern metaphor; it locates cognition and what pertains

to it, including language knowledge, in the sphere of abstract external forces, and reduces human engagement in its functioning to that of the operative whose beliefs, intentions, meanings, etc. are irrelevant to its processes.

Where machine-based technology displaces the human subject, skilled tool-use includes it:

> An object ... becomes a tool through becoming conjoined to a technique, and techniques, as we have seen, are the properties of skilled subjects. ... Thus the tool is not a mere mechanical adjunct to the body, serving to deliver a set of commands issued to it by the mind; rather it serves to extend the whole person.
>
> (Ingold ibid.:12)

No less than the technological picture, this implies a model of cognition; one in which mental life is not just the working of an internal processor; in which, accordingly, there is no rigid demarcation of internal and external worlds and the kinds of explanation relevant to each. Such a model will assume a dynamic and interpenetrating relationship between thinking and acting ("for acting in the world is the skilled practitioner's way of knowing it"; Ingold op. cit.:8), in which tools, culturally elaborated, create and transform cognitive functions. Writing, it will be argued, is a tool in this sense, with consequences both for a culture considered as a whole and for individuals growing up within it (cf also Ingold 1995a).

1.4 The cognitive position

1.4.1 The methodological basis

Viewed technologically, therefore, as the rule-governed output of representations from an essentially static mental structure, cognition involves no reference to features of the external world. In this it is supported by a political tradition that has viewed the individual as opposed to society, and conceived of individual autonomy as a matter of self-determination without external control. Although aspects of the social world may impinge to facilitate or hinder it, learning essentially depends on the individual's cognitive capacity, together with attitudinal, affective and biological factors. It will therefore be fully explicable in terms of internal changes, while the means by which they are achieved, including interaction with experts and peers, involvement in structured activities, the forms and media of language used, will be thought of as neutral and instrumental.

At a practical level, the technological view is supported by an experimental methodology derived from physics, designed to reveal the laws operating in natural phenomena, whose 'objectivity' appears to guarantee the autonomy of the statements it produces. Applied to psychology, including second language learning, it seeks to determine the mechanisms that causally mediate behaviour and the laws which regulate them. Indeed, according to Langley and Simon, the main justification for

investigating learning theory is its "central role ... in formulating parsimonious, nearly invariant laws of cognition" (Langley and Simon 1981:378). A sharp distinction is therefore drawn between the dependent variables under investigation and the independent variables that constitute the specific 'treatment', etc., both considered to belong to the investigation, and further between these and the factors that are taken to form the 'background' extraneous to it, to be statistically controlled. This reinforces a belief in an absolute boundary between private 'inside the head' factors and public 'outside the head' factors. Learners are seen as 'subjects' whose own interpretations of their activities, along with other aspects of their lives, belong to the latter category (cf Danziger 1990). In this way, it is assumed, valid inferences can be made to the law-like aspects of their behaviour, including the internal principles which regulate its development.

Yet, as Danziger argues, human beings clearly differ from objects of study in the natural sciences, in that their behaviour can never be wholly detached from the cultural setting to which it owes its significance. Nor are investigators themselves, or the experimental situation, more privileged in this respect, even though their institutional setting puts 'autonomous' means at their disposal, including a language of factual report, precisely to suggest otherwise. Moreover, the application of statistical procedures to aggregate data can provide nothing like the degree of stringency physics would demand to sustain a claim to have 'confirmed' a given theory (cf Gill 1993). Nevertheless, while it may be recognized that psychological theories are themselves bound up with cultural and historical factors, the tendency is to rely on methodological refinements to supply the necessary objectivity; by a process which Danziger calls "methodological rationalism", technical sophistication readily comes to substitute for conceptual analysis (Danziger op. cit.:5).

1.4.2 Learning and development

Preoccupation with cognitive structures, rules and processes has largely displaced interest in general learning theories (cf Spiro 1980:270-1; Langley and Simon op. cit.:361). Moreover, with mental organization increasingly thought of as modular, the scope for such theories has been reduced: it is no longer routine to suppose that useful generalizations can be made across different domains. Cognitive psychology nevertheless makes certain broad assumptions about the nature of learning that have been highly influential. In particular, as noted, it is assumed, by analogy with computers, that learning goes on 'inside' the learner as a result of processes that organize knowledge in conceptual hierarchies, increase the efficiency of its retrieval, construct and test models of the world, extend processing space, etc., all of which lead to improved automaticity of mental functions. The 'knowledge' with which they are concerned refers to declarative information (the 'knowledge that' of Ingold's analysis) which can be recoded in propositional form and subjected to logical and syntactic operations, and which, as such, is inherently non-developmental. It does not include knowledge of a practical, culturally mediated kind, developed through interaction with others in daily activities. For

Fodor, for example, learning is just the complexification of what the individual 'knows' by the light of nature. Progress involves making inferences, testing hypotheses, drawing conclusions, etc., the expansion of memory capacity and encyclopaedic knowledge, but not learning new concepts (cf §4.2.2; see also de Gelder 1985).

This systematic neglect of the setting, medium, and kinds of engagement that characterize instructional activities is criticized by Gardner:

> We do not know which values are promoted, which products are valued, which processes are modelled in the institutions where the child is educated and socialized. There is little sense of how children organize their complex daily lives, what they are doing in and outside of school, whether (and how) the simple tasks favored by information-processing-oriented investigators relate to the more molar and real-time concerns of developing children.
>
> (Gardner 1986:268)

Inclusion of such elements will depend on the recognition that what belongs to a 'treatment' and what to its 'context' is not given, but embodies a theoretical decision. The fact that it may appear otherwise reflects the degree to which such decisions are institutionalized in, and perpetuated by, the methodology, and, more generally, the extent to which the view of the person as a "private cognizer or interpreter of the world ... sealed into [his] own individual and self-contained subjectivity" (Harré and Gillett op. cit.:21-2) is among the least problematic of modern presuppositions.

1.4.3 Second language learning

The context-independence of this approach to learning has made it possible to depict the language reaching the learner's ears and eyes as 'input' to a pre-programmed mental 'device'. For Carroll, "a learner's interlanguage is a cognitive construction derived from the inputs - in both acquisition and learning contexts - to which the learner has been exposed" (Carroll 1986:101; original emphasis). There is no suggestion that any feature of the context might have a bearing on this, beyond what is necessary to ensure its efficiency: under ideal conditions, acquisition will be an automatic process to which the learner's socially and historically located understanding of the activity is irrelevant. The implication that a simple autonomous principle, such as that proposed in Krashen's Input Hypothesis (cf Krashen 1982, 1985), can cut through the complexities of learning in all its contextual manifestations is obviously appealing, and, for this reason, has rightly been criticized (cf Brumfit 1992:124; also Gregg 1984; McLaughlin 1987a; and §6.3.3). Despite such criticism, however, this general theoretical orientation towards second language learning remains widely accepted, particularly in treatments of extensive reading. Its popularity indicates the extent to which technology has come to supply the normal conception of cognitive activity.

The technological picture of the mind is complemented by a linguistics that has been more concerned to codify structural, syntactic relations in the synchronic system than the semantic and pragmatic aspects of everyday language use. In this view, what is 'acquired' in language acquisition is knowledge of the system, regarded as a set of rules capable of running by their own logic, without reference to context. Moreover, following Chomsky, the original Saussurean stipulation of a strong boundary between 'system' and 'use' has been internalized and given genetic identity. The language system, equated with individual linguistic competence, is located in (and identified with) a specific module of the mind/brain, no different, in principle, from other bodily organs. With respect to its development, therefore, little remains to be explained, since the developed form is fully specified by the genetic code. It follows that language learning is a phenomenon *sui generis*, subject to its own principles and not to be brought under any more general theory of learning (cf above). This is hardly a promising basis on which to develop a more responsive or practically useful understanding of it.

The implications of the cognitive approach, as applied to second language learning, may be summarized thus:

(1) Both what is meant by 'language' and what is meant by 'knowing a language' are derived from synchronic linguistic theory, in which (i) the written manifestations of language are either suppressed, or treated as derivative; and (ii) the language system is assumed to be either fully mentally represented, as in the case of native speakers, or else imperfect and transitional in some sense.

(2) What is meant by 'learning a language' is confined to the internal cognitive processes by which individuals come to possess knowledge of the language system. These are assumed to operate autonomously, without reference to the context in which learning is carried on, according to essentially invariant, perhaps genetically programmed, principles.

(3) The notion of the individual, and so of the 'learner', is defined independently of 'culture', as the locus of certain fixed attributes (age, intelligence, motivation, etc.), derived by statistical procedures from the aggregate and projected back on to the individual. Culture is regarded as an object of knowledge.

(4) The experimental methods employed serve to isolate cognitive change, including language learning, from the activities and institutions in which it occurs, while treating certain (for example, socioeconomic or sociolinguistic) aspects of the context as independent 'factors' bearing upon it.

(5) The main role of formal language instruction is either (i) to provide sequenced sets of inputs to 'expose' learners to the language system (i.e. its grammatical rules and lexis); or (ii) to present sequenced aspects of the system explicitly. Instructional material, including texts, will be designed primarily with one of these ends in view.

1.4.4 Second language reading

In this paradigm, it has been usual (1) to treat 'reading' as an independent variable in an experimental design where the dependent variable is some measure of language proficiency, etc.; (2) to analyze reading into 'component processes', such as the use of graphic cues, word or letter recognition, the establishment of phoneme-grapheme relationships, etc., which derive from features of the printed page; (3) to assume that 'comprehension' is the output of these processes, construed as a part of readers' mental equipment, hence presumably universal. This view therefore tends to project reading and the skills it entails relative to our purposes, institutionalised in genres of printed book, etc. familiar to us, as a 'panchronic universal' (cf Harris 1986:53;153-4). The very assumption that reading can be dissociated from its functions in this way is perhaps a product of our highly standardized forms of literacy.

This orientation has been reinforced by the kinds of question pursued: is second language reading a reading problem or a language problem? (Alderson 1984); does exposure to second language text lead to second language acquisition? (Elley and Mangubhai 1983; Hafiz and Tudor 1989); does literacy in the first language lead to literacy in a second? (Weinstein 1984). Such questions may either be understood as cognitive (implying an immediate mental process), or as sociolinguistic (implying reference to the situational correlates that may promote or impede second language acquisition). But in either case the decisive factor is the availability of 'input'; even Weinstein's consideration of the socially determined uses of literacy ultimately returns to this point: are non-literates denied access to 'comprehensible input'? (op. cit.:475); does the social organization of literacy affect its availability? (ibid.:476).

Recent theoretical discussion of extensive reading has mostly seen it as an adjunct to language learning on the cognitive model. This is so, even though, more than other aspects of reading in the language curriculum, it involves reading longer texts for less explicitly pedagogic ends, and lays stress on the cultivation of extracurricular reading habits. The extensive reading of suitably graded material is held to maximize exposure to accurate and comprehensible input, increasing 'automaticity' and allowing learners to acquire the rules of the second language system with a minimum of overt teaching. This has made it possible to regard a programme of extensive reading as a technology in the sense discussed, neutral with respect to contexts and independent of learners' own literate habits; in short, a cause of which second language learning will be the effect. But although such a view may recommend itself to a programme's sponsors (as is argued it has in Hong Kong), it offers only a very partial and instrumental justification for reading, and undervalues the role (including the cognitive role) of literate practices in the lives of the programme's participants.

1.5 The sociocultural position

1.5.1 Tools and symbols

A challenge to cognitive assumptions has come from anthropology, whose primary concern is to establish the meanings activities have for participants and observers, which is only possible by relating them to other activities in the same setting, and assuming them to be sustained within networks of shared intentions, beliefs, expectations, etc. ('Discourses', in Gee's terms). This calls into question the experimental basis of cognitive theory; as Goody observes, "outside school, we don't often come across the type of learning situation that is modelled in so many psychological experiments" (Goody 1987:179). At the same time, the ideas of Vygotsky and his followers have begun to be more widely known. In place of the privatized conception of individuals as information processors, interacting with others against a backdrop of external conditions, they have advanced a dynamic view, in which development is channelled by cultural inventions, and mediated by interaction with "people who are more skilled in the use of the culture's tools" (Rogoff 1990:14), notably language and other symbolic forms. This implies no discontinuity between biological and historical/cultural evolution, either at the level of the individual or of human culture as a whole: in both cases, the decisive factor is the emergence and assimilation of tool use and symbolic activity in social contexts, by means of which objects, including thought and language themselves, can be manipulated and develop 'outside the head' (cf also Ingold 1995b).

A sociocultural approach does not deny any role to genetic or biological factors in cognitive development. As Toulmin reminds us:

> We ... have to take into account neither genetical factors alone nor cultural factors alone, but rather the whole historical sequence of forms through which our native intellectual and practical capacities progressively find - and have historically found - better-adapted functional expressions.
>
> (Toulmin 1972:446)

Rogoff makes the same point: "Biology and culture are not alternative influences but inseparable aspects of a system in which individuals develop" (Rogoff 1990:28). But since there is no position outside history and culture where genetic factors operate in a 'pure' form, there can be little sense in adopting theoretical accounts of thinking, learning, language use, etc. that idealize such a position, nor can 'cultural' variations simply be added to a model of their 'underlying' universal processes (cf Bloome and Greene 1984:412). Cognition is situated in forms of activity with a temporal and geographical location, shaped by cultural ends. Hence, development is to be identified not with the extension of autonomous mental structures, etc., but with learning how to act in ways to which notions of purpose, intention, etc. are relevant. With respect to second language research this will

entail a shift away from the 'thin' notions of learning current in SLA-orientated approaches, to one that connects with broader educational issues.

1.5.2 Literacy and language learning

If this view is correct, the boundaries between mental and social worlds prove to be permeable. The essentially 'additive' model of learning as progress through a series of developmental stages will be replaced by an 'integrational' one, in which the development of culturally/historically situated skills transforms the learner's cognitive potential and hence the course of learning itself. In consequence, aspects ignored by the cognitive approach, "symbol systems like written language, maps, musical scores; vehicles of communication like books, television, and computers; and loci for the transmission of knowledge like schools, media, and ceremonials" (Gardner op. cit.:268), will assume central significance. Likewise, there will be no place for such abstractions as 'the language'. 'the reader', 'the text', etc., or for 'comprehension' or 'learning' in the sense of private cognitive functions or outputs. Attention will be required instead to those aspects of the learner's world which provide support or 'scaffolding' for the development of specific abilities. Among these, as noted, symbolic systems, especially those of written language, are particularly important.

It will then be important not to seek monocausal explanations based on the effects of 'literacy', etc., but to consider the practices in which a given symbol system (for example, alphabetic writing) is embedded, hence to treat such systems as themselves cultural phenomena that enter into an array of discursive practices, to which individuals are likely to have differential access, and in which they may be involved more or less marginally, etc. This is particularly relevant in the case of reading, which takes many forms and fulfils many roles in different cultures, both historically and at the present day, few of which could claim to be universally distributed even within a single society.

Reading, as a component of second language learning, may be thought quite distinct from the reading whose object is the development of literacy. However, this again reflects the assumption that language learning engages cognitive mechanisms, whereas literacy belongs in the social world. Instead, it would seem preferable to think of a continuum from situations (for example, language classes) in which the former is a priority, to others (for example, learning to read the Qur'an) in which aspects of the latter are paramount. But the two can never be fully separated: just as engagement with another language or dialect is a feature of situations in which the goal is the acquisition of literacy, so it is impossible to keep the implications of literacy out of the language classroom. As Grabe comments, "it is naive to assume that the difficulties, complexities, contradictions, and debates in first language literacy do not apply to the large majority of second language contexts" (Grabe 1990:145; cf also Wallace 1988:3).

1.5.3 Reading and social practice

When reading is approached from the point of view of literacy learning, there has been much greater awareness of the cultural diversity not only of the contents of texts, but also their purposes, genres, and structures. Literate practices, including reading, are among those aspects of the world with which the young learn to operate through formal or informal interaction with other members of their community. It is therefore recognized that the literate behaviour of white, middle-class families, where children grow up surrounded by print and discussion arising from it; where they are read to, and learn to talk about language in ways that reflect textual awareness, may be remote from the norms of learners from different backgrounds (cf Heath 1983; Teale 1986; Wallace 1988). As Wallace observes: "Being a 'reader' is likely to mean something rather different from one social group to another. It will certainly mean something different from one society to another, and from one cultural group to another" (Wallace op. cit.:2).

Acquiring literacy, specifically school literacy, in a second language, is thus likely to place great demands on children socialized into different discourse communities, and involve not only linguistic but also social and political dimensions: on the one hand accommodation to the beliefs, styles of reasoning, etc. implicit in the discourse of the school; on the other, as Smith puts it, "the betrayal of cultural allegiance" as embodied in their own discourse (Smith 1986:268). From this point of view, "learning to read is not like putting on a new suit of clothes. It involves a reorientation to and a restructuring of one's world" (ibid.:273). Fishman emphasizes the importance of sympathetic study of non-mainstream literate practices in making us aware that literacy may "take different forms, pursue different goals, be linked to different contextual and institutional supports from one speech community to another and even from one speech network to another" (Fishman 1989:25). Grabe has suggested that this kind of awareness be extended to questions of reading ability itself (Grabe op. cit.:153). Such considerations were especially relevant to the survey of reading in Chinese and English among first year secondary students in Hong Kong, where complex issues surround the questions of language medium, literacy and social allegiance (cf chapter 8).

Ultimately, it will be argued, if learning a second language implies coming to comprehend and operate with its discourses, it cannot simply be a matter of acquiring knowledge of the second language system. but must involve gaining familiarity with its genres, both spoken and written, and so also the cultural practices, etc. that shape them. However, the belief that second language text can function simply as a visible manifestation of the language system has in part been encouraged by the orthodox view of written language as a transparent recoding of speech. As a basis for the development of the ideas outlined here, therefore, the following chapter turns first to examine linguistic approaches to written language, and the changing relations of spoken and written language in society and individual development.

2. APPROACHES TO WRITTEN LANGUAGE

> In human history it was the invention of writing that made speech speech and language language. For any literate society, there can be no going back to that primal innocence in which *logos* has a single manifestation, and rationality, language and speech are one. By the same token, there can be no future for a falsely naive linguistics which tries to pretend that somehow or other that fall from preliterate grace had never occurred.
>
> (Harris 1983:15)

> The competition between the history of writing and the science of language is sometimes experienced in terms of hostility rather than collaboration.
>
> (Derrida 1976:82)

2.1 Introduction: writing in linguistics

2.1.1 Introduction

In order to understand the place of written text in second language learning, a first step is to establish some account of the nature and functions of written language itself. This is made more necessary by the tendency in linguistics, and the Western tradition in general, to suppose that there is little to say about writing except that it is a derivative recoding of speech; especially when, on closer inspection, it would appear that, even in linguistics, writing occupies a more central position than this implies. However, persistent denial of theoretical interest, coupled with neglect of the functions of written language by schools (cf Stubbs 1980:97), has favoured the growth of acontextual and universalized approaches to writing and language learning of the kind outlined in the Introduction. It has enabled models of second language acquisition to assume that a learner's preset learning mechanisms operate on language input, irrespective of modality or the activities in which it is embedded; and that what is acquired is an abstract mental representation of the language system as described by the grammar. To prepare the way for a contextual approach to second language learning, it is therefore the aim of this chapter to suggest grounds, both theoretical and historical, for challenging the conventional view of writing and written language.

2.1.2 Spoken and written language

Much work has focused on the differences between written and spoken language. However, even ignoring the fact that a written text may be read aloud or speech transcribed, etc., the distinction between them ("gross" in Algeo's view 1991) lacks an unambiguous basis, as shown by the frequent use of such terms as 'spoken speech' and 'written speech', etc. Though intuitively clear with respect to certain typical uses of speech and writing, it remains hard to draw in terms of any global set of necessary and sufficient conditions. In part, this is a consequence of the many dimensions underlying the contrast (see especially Akinnaso 1982; Biber 1988; also Appendix 1); in part, it is a

consequence of the variety of terms available: Horowitz and Samuels find little overall consistency in the use of 'speech', 'writing', 'spoken language', 'written language', in the literature (Horowitz and Samuels 1987:44, note 2).[1] What is lacking, for reasons to which the distinction itself is relevant, is an agreed superordinate; Harris notes, for example, that the Saussurean terms *langage* and *parole* have both been translated into English as 'speech' (Harris 1983:9). In the following discussion, 'speech' and 'writing' are used to denote two clusters of activities, oral and inscriptive respectively; 'spoken language' and 'written language' to denote their products. In most cases (for example, English) these will share the same semantic and lexico-syntactic base (cf Akinnaso op. cit.:119), but in certain diglossic situations they are unrelated (cf below §2.4.2.3; cf also the situation in Hong Kong; §8.2.2.2). Following Vachek, reference will be made to spoken and written 'norms' of language to indicate that their demarcation is socially and historically variable (cf Vachek 1973:15; cf below). Within written language a further contrast is sometimes necessary between 'scribal' and 'printed' language (cf Eisenstein 1979:117n229).

The principal dimensions of the contrast between speech and writing are set out in Table 2.1. The headings are not entirely independent, but reflect major emphases in the literature. It is clear that one must always ask why the distinction is being drawn on a given occasion. A frequent, though rarely acknowledged, object seems to be to establish a rhetorical framework in which either speech or writing can become the locus of negative or excluded properties in relation to which the integrity of the other can be maintained. Perhaps for this reason, there is a tendency for different fields (for example, linguistics, psychology, anthropology) to treat different dimensions as 'primary' (cf §2.2.1 below).

The following discussion is concerned, firstly, with linguists' attempts to establish speech as the basis for the description of the language system; with various difficulties to which this gives rise; and with its consequences for the conceptualization of writing and the written language. It then considers the existence of a parallel 'written language' tradition, and the importance of the functional differentiation of speech and writing in different communities. Finally, it re-assesses the place of writing in the language system.

Table 2.1: Dimensions of the speech/writing contrast

i)	Physical characteristics of each medium.
ii)	Phylogenetic/cultural evolution: speech and writing as they figure in the evolution of the species.
iii)	Historical development: the development of spoken and written practices within a culture.
iv)	Ontogenetic/individual development: the acquisition and growth of speech and writing, and their role in individual development.
v)	Nature of neurological/cognitive processing and production: the 'mental representation' and processing of speech and writing.
vi)	Formal/linguistic/semiotic properties: speech and writing as autonomous symbolic systems.
vii)	Nature of spoken and written norms in given contexts.
viii)	Functional distribution of the two norms.
ix)	Generic functions: nature and varieties of spoken and written genres.
x)	Communicative functions: relation of speech and writing to contexts and the participants in them.
xi)	Cultural position/sociopolitical (etc.) status and values: speech and writing as cultural practices; their perceived prestige and social distribution.
xii)	Consequences of writing and speaking: their individual and societal implications, for example as 'technologies of the intellect', etc.

2.1.3 The exclusion of writing and its consequences

The appearance of writing in comparatively few societies, long after *homo sapiens* had evolved the capacity for speech, together with the associated fact that it is never acquired without specific, culturally organized instruction, indicate that writing is neither a universal nor an essential part of human language capacity. Furthermore, since it came into being as a record of speech, its status as symbol system may also appear to be self-evidently secondary. Following Saussure's insistence that linguistics should study the spoken word alone (Saussure 1983:24-5), it has been usual, especially within the behaviourist and cognitive traditions in the United States, to regard writing as "an essentially and invariably secondary sociolinguistic superstructure" (Miller 1986:8), holding little or no intrinsic interest for theoretical linguists. It would be wrong to imply that they have had nothing to say about writing; Bloomfield, for example, considers the linguistic interpretation of written

records in some detail (Bloomfield 1933:ch17). But the priority of speech has been so widely argued for that exclusion of writing from the 'essence' of the language system is now often taken for granted. As recently as 1982, Fillmore felt that his interest, as linguist, in readers and texts required explanation, since "it is much more common in linguistic circles to talk about hearers and spoken language" (Fillmore 1982:253).

The assumption that the written sign is simply "a pale and impoverished reflection of language" (Basso 1974:425), a reminder of a primary vocal one, has been closely related to thinking about the nature of written language in related fields, notably cognitive psychology. Although linguists may have had their attention on the structural properties of the language system, psychologists on "instantiate behavioral variables" (Scinto 1986:16), even purely linguistic theories generally presuppose some model of language processing, and once any form of psychological reality is postulated for the language system itself the distinction is likely to be eroded. Linguistics has thus supplied an apparent theoretical justification for the lack of mainstream interest in the psychological consequences of the written language, as mediated by its use in various forms of literate activity. With respect to the development of theoretical models of second language learning from text, both behaviourist and cognitive approaches have assumed the psychological transparency of operations in the written medium, to which semiotic transparency is a necessary adjunct. The linguists' view tends to be counted as evidence for the belief that sources of language 'input' are interchangeable. No property intrinsic to the written medium itself is held to be relevant to the process of language learning: exposure to text may serve the same purposes in a language syllabus, and with just the same effect, as exposure to spoken language (cf chapter 5). In consequence, neither approach has taken much account of functional and generic questions, for example the relevance of different kinds of text, or different aspects of text, and there is no possibility of considering the "formative nature of socioculturally constituted semiotic systems in the development of mind" (Scinto op. cit.:161). On the other hand, if writing is regarded as semiotically and functionally equivalent to speech, written texts can be approached as 'tools for thought' that play a vital role in mediating the development of learners' cognitive abilities and linguistic awareness. Then it will be necessary to differentiate written and spoken norms with close attention to their contextually defined functions. These points are developed below (chapters 7 and 8).

The alleged transparency of the written sign has more general ramifications. In relation to literacy, the preoccupation with universals in contemporary linguistics, and emphasis on the autonomy of the formal language system (whether construed as a social fact, or as a psychological representation), sets it at odds with a contextual approach. If written language is a neutral encoding of the language system, becoming literate need imply no more than learning mechanically to assign correct values to the written symbols (cf §1.1). This makes it possible to treat literacy as a skill, itself contentless, to

be implemented without reference to local circumstances or engaging with broader 'ideological' issues. Yet, as Street argues, any such claim to 'autonomy' is likely to conceal the ideological preferences of a dominant, European elite (Street 1984; 1993:13ff). In this sense, the notion of an autonomous language system is itself a consequence of the naturalization of a particular, privileged written language norm; Bakhtin stresses the essentially philological basis of European linguistic thought, born and nourished, as he puts it, from the cadavers of written languages (cf Bakhtin 1977:104). Ultimately, it will be argued, the western tradition derives its preferred model of cognitive and linguistic activity from the properties of an idealized written symbolism, taken to be capable of transparently representing either the contents of the external world, or innate mental structure. Moreover, to the extent that a given language system, when explicitly formulated, embodies 'written' preconceptions, and that it is this that underlies the language normally taught in second language classrooms, it is clear that thinking about the L2 is no less prone to 'scriptist bias' than thinking about the L1 (cf Harris 1986:46).

2.1.4 The place of writing reassessed

The attitude to writing illustrated here has a long history in the west: though Saussure had a novel theoretical motive for expressing it, doing so located him firmly in a 'phonocentric' tradition that can be traced back to Aristotle (cf below). As such, it may seem to be a fact of nature; yet Maurice Bloch contrasts this tradition with the Japanese, in which spoken language is "a rather poor and inefficient" way of communicating knowledge whose primary form is the written (*kanji*) characters. "To properly understand a spoken statement of import it should be written first" (Bloch 1989:30).

Even in the heyday of behaviourism, Bolinger noted the reality of visual as well as of vocal-auditory morphemes for literate societies, and concluded that "it is probably necessary to revise the dictum that 'language must always be studied without reference to writing'" (Bolinger 1946:340). In recent years, the exclusion of writing from the study of language has met serious criticism. First, as Scinto stresses, it is necessary to be clear what is meant by the term 'derived'; it "should in no case imply a secondarity or complete systematic dependence on some primary manifestation of language" (Scinto 1986:20). It has been pointed out that the evolutionary priority of speech is irrelevant to the present state of the system in literate communities, in which both speech and writing exist as fully elaborated, contemporary modes of communication (cf Harris 1983:14). Moreover, since, in such cases, speech and writing tend to become functionally and structurally differentiated, it will be inadequate to describe the latter as in any sense simply a recoding of the former (cf Lyons 1968:62). In doing so, as Coulmas, among others, has observed, the traditional view has encouraged the neglect of manifest differences between written and spoken norms, and the analysis of their (often complementary) relations, whether at the level of the individual or of the language community (Coulmas 1983:269; also Vachek 1973; cf below §2.4). In the fully literate world, indeed, it is

principally through writing rather than speech that the vast extension of vocabulary, the expansion of language communities, and large-scale linguistic standardization have all become possible (Coulmas 1992:24; cf also Ong 1977:40). A more radical argument would maintain further that, in contexts where literacy is established and diversified, writing is inseparable from the concepts of speech and language with which linguists operate, making its influence impossible to unthink (see Harris, quoted as epigraph). The very idea of language as susceptible to certain kinds of analysis, or as possessing certain irreducibly basic units, it is argued, is itself, at root, a consequence of the writing system in which it is represented (cf Olson 1994, and below, §2.5.2).

These matters will be examined in greater detail in the following sections. First, however, it will be helpful to look more carefully at the notion of priority as used in this context; and, to begin with, summarize the various senses that may be attached to it.

2.2 The priority of speech

2.2.1 The senses of 'priority'

Following Lyons, Harris (1980:13) lists four senses in which speech is incontestably prior to writing: (i) **phylogenetic priority**: speech occurs first in all societies; (ii) **ontogenetic priority**: normal children learn to speak before they learn to write; (iii) **functional priority**: speech serves a wider range of communicational purposes than writing; (iv) **structural priority**: writing originated as a representation of speech, and not vice versa. To these can be added (v) **natural priority**: speech is a naturally occurring characteristic of the human organism, whereas writing is a human invention belonging with other extrinsic, mechanical accessories; (vi) **distributional priority**: speech is universal, whereas writing is not, either at the level of particular societies or of the individuals within them; (vii) **priority of use**: most language-users normally speak much more than they read or write (Stubbs 1980:28), and (viii) **physiological priority**: the nature of human speech organs limits the possibilities of articulation, making some combinations of graphic signs physically unpronounceable (cf Lyons 1968:65f). These senses are not unproblematic. At bottom, all of them rest on one of two related assumptions: that speech is (a) natural, and (b) universal. Writing, by contrast, is artificial, and has only a limited distribution. As Ingold (1990) has argued, however, the notion of 'artificiality' raises serious questions when applied to human activity: it is far from clear that any line can be drawn around the innate capacities of the human organism as opposed to those whose development requires appropriately structured, 'external' contexts.

While most of these senses have been called on to support the exclusion of writing from linguistics, the primary justification has been another, namely (ix) **semiotic priority**: the contention that writing is no more than a derivative symbolization of the primary auditory/phonological symbols of speech.

This last sense differs from (iv), in that it pertains not to facts of history, but to the synchronic relationship between speech and writing as semiotic systems. The different senses of priority are summarized in Table 2.2.

Table 2.2: Senses attached to the 'priority' of speech

(i)	**phylogenetic priority**	speech occurs first in all societies.
(ii)	**ontogenetic priority**	normal children learn to speak before they learn to write.
(iii)	**functional priority**	speech serves a wider range of communicational purposes than writing.
(iv)	**structural priority**	writing originated as a representation of speech, not vice versa.
(v)	**natural priority**	speech is a naturally occurring characteristic of the human organism; writing is a human invention, belonging with other extrinsic, mechanical accessories.
(vi)	**distributional priority**	speech is universal, whereas writing is not, either at the level of particular societies or of individuals.
(vii)	**priority of use**	most language-users normally speak more than they read or write.
(viii)	**physiological priority**	the nature of human speech organs makes some combinations of graphic signs physically unpronounceable.
(ix)	**semiotic priority**	writing is a derivative symbolization of the primary auditory/phonological symbols of speech.

However, the tendency not to distinguish clearly between them, or to combine them in various ways according to the emphasis placed on one or another dimension of the written/spoken contrast, makes the implications of the 'priority' argument particularly hard to unravel. To do so, it is necessary to differentiate more precisely between the levels at which the spoken and written language may be related. Scinto's analysis of the ways in which it is possible to represent the acquisition of the written language (op. cit. 68-9) can helpfully be adapted for this purpose. This suggests three basic levels, as shown in Table 2.3:

Table 2.3: Possible levels of correspondence between speech and writing

(1)	the representation of speech sounds by graphic symbols;[2]
(2)	the rules that permit correct transcoding between the phonic and graphic medium, enabling speech to be correctly transcribed, and writing to be correctly read; included here will be use of other graphic conventions, punctuation, etc.;
(3)	the structural/functional distribution of the genres of spoken and written discourse.

This analysis has significant implications. Underlying the belief that writing is a "a point-to-point equivalence ... to its spoken counterpart" (Sapir 1978:20) is the assumption that their relation is fully describable at level (1). Yet, as will be argued, description at level (1) itself depends on the prior assumption that speech is composed of linear strings of discrete units, for which the only obvious model is their written manifestation; in other words, the capacity of sounds and symbols to be paired off in this way already involves reference to a pre-existing (idealized) form of (alphabetical) writing. Moreover, viewed from levels (2) and (3), the notion of 'point-to-point equivalence' becomes far less tenable. At these levels, written language is not obviously either derivative or transparent, while the historically variable nature of graphic and textual conventions enters the picture. In fact, at level (3), the relationship between spoken language and written language connects with the functions and status of orality and literacy in given contexts, the authority of particular interpretative communities and the roles that specific genres have for them. It is level (1), the secondary symbolic relationship, that has informed the 'phonocentric' tradition, and the linguistic models of written language from which approaches to its role in language learning derive: one aim of the present discussion is to argue for the need to consider equally the implications of features at the other two. Moreover, as will be suggested below, the alternative written language tradition has largely been based on a semiotic notion of the written sign, to be characterized as 'ideographic' rather than 'alphabetic', in which there is no necessary connection to prior speech sound. It will be argued that the differentiation of speech and writing in fully literate contexts, whether at the social or individual level, requires the adoption of such an ideographic notion.

First, to understand the almost unanimous readiness of linguists to accept the secondary status of writing, it will be helpful to place it briefly in historical perspective.

2.2.2 The spoken language tradition

> In the very movement by which linguistics is instituted as a science, [one finds] a metaphysical presupposition about the relationship between speech and writing.
>
> (Derrida 1976:28)

In an obvious sense, reflected in (v) above, speech is intrinsically human. So, as McIntosh observes, its phenomena are "felt to be peculiarly, almost mystically, bound up with the physiological and psychological make-up of a person" (McIntosh 1956:38). Writing, by contrast, is extrinsic and artificial. Even in modern theoretical contexts it is impossible to discount the influence of this basic perception on the way the issues between speech and writing are approached. It becomes unavoidable when current positions are traced back to their origins. In attempting to do so, the following survey presents only the broadest outlines, and makes no attempt to deal with the many areas of possible controversy it touches on.

A number of writers have connected the attitudes of modern linguists with much older tendencies to value speech above writing. Scinto, for example, notes that a 'phonocentric' bias in western linguistic (and philosophical) theory can be traced back to antiquity (Scinto 1986:5). It will, however, be helpful to distinguish between the transmission of specific ideas about written language from one writer to another, from the more generalized expression of recurrent attitudes involving hostility to the written word. With regard to the latter, it is possible to point to the existence of a variety of attitudes to writing and its artefacts in western culture. The negative have mostly taken the form of moral hostility to 'new' technology, either, as Plato claims, on account of its supposed weakening of man's native mental powers, or, from a Rousseauan perspective, as a violation of the natural world by mechanized culture.[3] Such attitudes have been particularly associated with printing: "Through the habit of using print and paper, thought lost something of its flowing ... organic character and became abstract, categorical, stereotyped" (Mumford 1934:137). The printed word is mere paper money compared with the gold of speech in which the true unity of word and thought is achieved (cf Sapir below, §2.2.5).[4]

At the same time, the authority of classical sources has exerted a direct influence on subsequent thought. The majority of the figurative treatments of writing discussed by Curtius (1953:ch16) were consciously echoed or modified by later writers for literary ends, and turned into the commonplace *topoi* of the western tradition (the 'Book of Nature', the 'Book of History', the *tabula rasa*, etc.). More specifically, Aristotle's account of writing as a secondary symbolism has been handed down to the modern era, and, as McIntosh comments, "has endowed us with a terminology which does far less justice to written language than to spoken" (McIntosh, op. cit.:44). In Ludwig's view, it is justifiable to speak of an 'Aristotelian tradition', extending from the original assertion in *De Interpretatione*, that "spoken sounds are symbols of affections in the soul, and written marks symbols of spoken

sounds" (1.16a.4-6),[5] by way of Quintilian to Saussure, Bloomfield and Hockett (Ludwig 1983:31). According to Rousseau, "Writing is merely the representation of speech; it is bizarre that one takes more care in determining the image than the object" (Rousseau 1861:299-300; cf Derrida op. cit.:27), an observation echoed in Saussure's formulation of the idea: "As much or even more importance is given to this representation of the vocal sign as to the vocal sign itself" (Saussure 1983:25). In Sapir's version, "written forms are secondary symbols of the spoken ones - symbols of symbols" (cf below). While the interests of the writers concerned have varied, their basic assumptions have been cast repeatedly in the mould of the original formula.

2.2.3 Derrida's account

These themes receive their most extensive critique in Derrida's *Of Grammatology* (1976). His discussion resists convenient summary, and no attempt will be made here to do justice to its complexity or detail. However, despite its idiosyncrasies, there is much to connect substantive points of his thesis with ideas developed by other scholars.

Derrida explores the history of 'logocentric' beliefs (or prejudices), and their internal contradictions, through a variety of writers, seeking, in de Man's words, to chart "the recurrent repression, in Western thought, of all written forms of language, their degradation to a mere adjunct or supplement to the live presence of the spoken word" (de Man 1971:115). He traces the ways in which speech, undeniably prior in evolutionary terms, has repeatedly been privileged as more 'real', in direct touch with the original forms of ideas, and thus opposed to writing just as the self-authenticating truth of (divine) spirit, or *logos*, has been opposed to the deceptive opacity of external matter (Derrida 1976:34f; cf Norris 1987:66-7). Exclusion of writing, the negative term, he argues, is an act by which the nature of *logos* has achieved 'pure' definition (cf Spivak, preface to Derrida 1976:lxix). He finds close parallels between Plato's denunciation of writing, and the moral tone in which, two millennia later, Saussure rejects the inversion of the 'natural' relationship between speech and writing as if it were a sin. Behind this apparent overstatement, for Derrida, lies the fear of "an archetypal violence: eruption of the outside within the inside" (op. cit.:34; original emphasis).

However, Derrida argues, in reality, there is no means of representing original, unmediated access to truth other than by metaphorical reference to writing; indeed there is no conceivable state of language or society that is not already (in some sense) 'written':

> The alleged derivativeness of writing, however real and massive, was possible only on one condition: that the 'original', 'natural', etc. language had never existed, never been intact and untouched by writing, that it had itself always been a writing.
>
> (Derrida 1976:56)

Thus, despite Plato's criticism of writing in *Phaedrus*, Socrates defines true wisdom (in opposition to mere knowledge derived from texts) as that which is "written on the soul of the hearer" (*Phaedrus* 278;[6] cf also the similar view of Japanese ideographic characters; Bloch 1989:33). Like Plato, Saussure is obliged to resort to writing to model the true essence of speech (in his case phonological). For Chomsky, language is a symbolism written into the genetic code.

Above all, Derrida's interest is focussed on Rousseau, in whose texts writing is associated with those aspects of modernity that have disrupted the organic wholeness of the original speech community (cf Norris 1988:153; cf also McLuhan's views, §6.2.4.1). In various forms, this Rousseauan view continues to affect the writings of modern linguists and anthropologists, such as (in particular) Lévi-Strauss, who share his attitude to the decadence wrought by civilization. As Norris points out, speech, presence, origin, nature, etc. are all strongly marked positive terms, against which writing is associated with absence, hierarchy, social control, etc. (cf Norris 1987:97ff). In the work of Lévi-Strauss it is also conjoined with notions of violence and exploitation (cf Lévi-Strauss 1961:291f; Derrida op. cit.:101ff). Yet once again, Derrida argues, the controlling presence of writing is inescapable, in the sense that the deplored cultural changes have "always already" occurred. As in Saussure's case, he suggests, the apparent 'antiethnocentrism' behind Lévi-Strauss' intention "to restore the status of authentic ... human and fully signifying language" by freeing it from involvement with writing (op. cit., 120), is subverted by his acceptance of the prior distinction of peoples into those who possess writing and those who do not. In fact, the latter merely do not possess writing of a certain kind - that is, writing defined by 'us' (cf ibid.:83), and erected into a criterion of advanced human culture (cf further discussion of this 'Great Divide' in chapter 6). It is for this reason that Ingold adopts the term 'inscriptive practices' as a more general, less loaded term (Ingold 1995a).

Ultimately, there is no concept of human nature that is not itself a cultural artefact presupposing exactly the nature/culture opposition to be rejected, and no means of thinking back to any other, 'pure' state that may have preceded it. This is what lies behind Derrida's view that "the becoming-writing of language is the becoming-language of language" (op cit.:229; cf Harris, quoted as epigraph): writing - and so, more broadly, culture in general - did not supervene on an otherwise unsullied prelapsarian state; instead, its appearance was inseparable from the first articulation of human self-consciousness about language and culture. This point illustrates how nostalgia for a pristine speech world also has political resonance, as it operates to supplant the history of a society (whose precondition is writing) with less rational yearnings for its 'organic' past.

Derrida's pursuit of the attempts to retrieve this lost state of wholeness and innocence, over two millennia of the western tradition, by radical exclusion of their opposites, principally writing, makes clear the power myth has even over modern 'scientific' discourse. His strategy of exposing those

points at which writers find themselves constrained to "say what they do not wish to say" (cf Derrida, op. cit.:246) might fruitfully be applied to other works. Advocacy of 'plain language' against the delusions of metaphor, particularly Sprat's attempts, in the seventeenth century, to restore to the English language its (imagined) lost purity (cf §3.3.3.3), could usefully be discussed in these terms. So could Chomsky's contention that the written form of the English language corresponds closely to its instantiation in the brain of the ideal speaker-hearer (eg Chomsky 1970; cf below, §2.5.1). In both cases, a conflict is apparent between the necessity of banishing writing, as delusive or accessory, and its indispensable role as model for the preferred form of the language system. However, Derrida's interest in myth, and in those formal or structural oppositions articulated by his chosen texts, involves reading them principally as exemplars of this timeless metaphysics, rather than in relation to the cultural and historical circumstances in which they were produced. In general, it will be inappropriate to attempt direct comparison between the beliefs of ancient writers, in whose milieu writing was still comparatively recent, marginal and functionally restricted, and those of modern linguists whose physical and intellectual worlds have been entirely conditioned by literate practices.

2.2.4 Saussure and the priority argument

Like the ancients, Saussure treated writing "as if writing began and ended with notation" (Derrida 1976:34). However, the idea of semiotic priority for him had a new point: with the publication of the *Cours de Linguistique Générale*, the exclusion of writing became an essential part of the strategy by which the new structuralism sought to define itself. With its abrupt transition from an evolutionary to a synchronic perspective came the need for some secure (that is, in some sense, necessary) foundation, or originating principle, that could stand in the same relation to the timeless language system as the notion of origin, however uncertain, had stood to the historical account. For Saussure, as for most subsequent linguists, the object was, therefore, to draw and defend a boundary between features 'internal' to the system, and its here-and-now spoken manifestation, and those 'external' to it, on the basis of a structural definition of language. Anything other than transparency between writing and speech would introduce the possibility that they were not, in fact, congruent systems, in which case the boundary would be permeable by socially and historically constituted, therefore inherently unsystematic facts. For the same reason, any divergence between speech and writing had to be seen as a breakdown in the process of representation, attributable solely to the crudity of the writing system (see §2.2.7 below).

In practical terms, it was vital for Saussure to differentiate the new object of study from what it displaced. Preconceptions derived from nineteenth century philology, in which the description of languages had been based almost entirely on textual evidence, and no clear distinction made between a language and its written form, could not be allowed to leak into the synchronic account. Early in the *Cours*, therefore, Saussure warned:

> A language and its written form constitute two separate systems of signs. The sole reason for the existence of the latter is to represent the former. The object of study in linguistics is not a combination of the written word and the spoken word. The spoken word alone constitutes that object.
>
> (Saussure 1983:24-5)

On the other hand, although the synchronic moment exists in history, the definition of language within it is essentially static and ahistorical. Its foundation is semiotic, and, as such, its essence is purely formal; in Saussure's definition: "The language itself is a form, not a substance" (ibid.:120). But this implies that its phonological shape is no less dispensable than graphic marks:

> It is impossible that sound, as a material element, should in itself be part of the language. Sound is merely something ancillary, a material the language uses. ... Linguistic signals are not in essence phonetic. They are not physical in any way. They are constituted solely by differences which distinguish one such sound pattern from another.
>
> (Saussure op. cit.: 116-7)

Scinto points out the flaw in Saussure's argument (Scinto 1986:10ff). It follows from the definition of language as an abstract system of differences that there is no necessary connection between it and any of its particular modalities, or 'substances' (cf Scinto op. cit.:12); and it is language, so defined, not speech, that Saussure takes to be fundamental: "One may say that it is not spoken language that is natural to man, but the faculty of constructing a language, i.e. a system of distinct signs corresponding to distinct ideas" (Saussure, op. cit.:10). But, if this is the case, then there is no reason to prefer either speech or writing as in some sense its primary manifestation. In order to exclude writing, Saussure invokes a diachronic fact - the priority of speech, in sense (iv), Table 2.2 above) - even though it can have no bearing on the status of either modality with respect to the semiotically defined system of differences (cf Scinto op. cit.:30-1; Derrida makes a similar point, op. cit.:39).

With this, a fundamental ambiguity was introduced at the heart of the language system. The fact that it persisted for so long may reflect the extent to which, for all the rhetoric, writing never was, in reality, excludable. On the contrary, despite Saussure's explicit wish to end confusion between language and its graphic notation, his own account of linguistic units is intimately shaped by the alphabet. Like later proponents of the 'alphabetic hypothesis' (cf §6.2.3), he treated these units as prior to all representation; the unique achievement of the Greeks was to develop the most suitable symbolic means to capture them:

> One cannot fail to admire the Greek alphabet in its most primitive form. Each sound unit is represented by one symbol, and conversely each symbol invariably corresponds to a single sound. It was a system of brilliant simplicity, later taken over by the Romans. ... The principle was not grasped by other nations, and consequently their alphabets do not analyse sound sequences into constituent auditory units.
>
> (Saussure 1983:40)

As Harris points out, this idea of speech as a linear sequence of uniquely differentiated sounds that emerge correctly ordered from our mouths, is "simply the image of alphabetic orthography projected back on to speech production" (Harris 1986:41). In his view, Saussure's insistence on the distinction between letters and sounds could not by itself succeed in 'letting go of the letter': indeed, "if, *per impossible*, one had succeeded in letting go, one would simultaneously have let go of any serious possibility of a systematic analysis of languages" (Harris 1980:17). Saussure's introduction of alphabetic concepts into the carefully insulated synchronic language system initiated a 'crypto-scriptist' bias in modern linguistics, little different from the overt scriptism it replaced (ibid.).[7] In this sense, at least, there are grounds for arguing that writing, rather than speech, should be considered the 'prior' linguistic fact, which the emphasis on historical priority has only tended to obscure (cf Culler 1988:218; and §2.5.2). In any case, these considerations help to show that the question of 'priority' is incapable of unique solution, and so far from decisive in relegating written language to inferior status.

Scinto identifies two traditions that have arisen from this blurring of historical and semiotic arguments. The first, largely American, followed from Saussure's equation of language with speech, in which writing is a derivative symbolization, extraneous to the system and therefore to linguistics. The second, taken up in particular in Prague and Copenhagen, originated with Saussure's definition of language as form not substance, and so took a far greater interest in writing as a semiotic system. It will be argued that these traditions may be aligned respectively with the 'alphabetic' and 'ideographic' notions of the written sign referred to earlier. The following section illustrates the views of the former; the latter are discussed below (§2.3.4).

2.2.5 The Saussurean legacy (1): language equated with speech

In the behaviourist account, the priority of speech rests particularly on sense (v) (Table 2.2): writing is a mechanical phenomenon with no intrinsic connection to the language system: correspondence between speech and writing is established by habitual association alone. Writing operates as an external stimulus to auditory recognition; for Bloomfield it "is not language, but merely a way of recording language by means of visible marks" (Bloomfield 1933:21); "merely an external device, like the use of the phonograph" (ibid.:282). For the language user there is no more cognitive or interpretative activity between the written mark and its auditory realization than there is between the phonograph and what it records: the relation is one of low-level mechanical cause and effect, and therefore, in other respects, empty.

This conception of the written language has been (and, in some contexts, remains) widely influential, no doubt in part because it is directly applicable to education. The behaviourist alliance of linguistic and psychological theory helped to initiate a major shift in orientation from the abstract semiotic

properties of language to the learning processes and responses of the language user. At the same time, emphasis on the purely mechanical pairing of written and auditory symbols appeared to simplify reading and learning to read in both first and second language contexts (cf below, §5.3.1). Yet the 'extrinsic' character of writing does not, by itself, entail that writing is 'secondary'. It could equally form grounds for asserting the complete semiotic independence of the two systems.[8] The key factor in the Bloomfieldian approach is less its insistence that writing is merely a trigger for auditory responses than the functional restriction imposed by its denial that writing has any separate identity, or exists for any purpose other than the recording of speech. Carried over into educational contexts, this leads to a severe limitation on the treatment of the written norm beyond initial teaching of graphic-phonic correspondences.

Other writers focus on other aspects of the relationship, but the same functional restriction is generally assumed. Sapir is less concerned with the physical facts of writing than its status as symbol system, and hence gives greater emphasis to semiotic priority (sense (ix) above):

> The written forms are secondary symbols of the spoken ones - symbols of symbols ... Even those who read and think without the slightest use of sound imagery are, at last analysis, dependent on it. They are merely handling the circulating medium, the money, of visual symbols as a convenient substitute for the economic goods and services of the fundamental auditory symbols.
>
> (Sapir 1978:20)

In this account, the priority of speech is maintained even when the efficient reader has dispensed with the mediation of auditory symbols in processing a text; that is, even when, at a psychological level, the semiotic relation has become 'ideographic'. This is in striking contrast to the position adopted by Bradley and also Vachek, who take the activity of the silent reader as evidence of a direct symbolic link between printed word and external reality (Vachek 1973:37; cf below). Instead, Sapir's chosen metaphor appeals to a kind of transcendental auditory symbolic exchange that constitutes the 'real' medium of linguistic activity, no matter what its physical realization. Although the reader moves effortlessly between the written word and its meaning, the language itself only <u>really</u> symbolizes anything by virtue of being a representation of prior speech sound.

By contrast, Jakobson and Halle appeal to the ontogenetic and intrinsic senses of priority ((ii) and (v) above), arguing that reading and writing always follow mastery of speech, and that, in consequence, "phonetic or phonemic writing is an occasional, accessory code," like musical notation, providing "visual replicas" or "parasitic auxiliaries" of the speech code (Jakobson and Halle 1956:16-17). This again raises the question of whether coming after entails being parasitic (cf Derrida op. cit.:54; also Vachek op. cit.:37-9). Hockett excludes writing from the universal design features of language on the grounds that speech is a cultural 'common denominator', whilst writing is recent and restricted (i.e.

senses (i) and (vi) above). In his view, specific aspects of human communication have been conditioned by the rapid fading of speech, which writing typically lacks. He also doubts whether writing possesses duality of patterning: graphemes cannot be reduced to a set of basic constituents equivalent to the distinctive features of which phonemes are composed (Hockett 1966:14-5).[9]

Like Bloomfield, however, none of these writers questions the functional restriction implicit in the subordination of writing to speech sound, as if the relation between them were fully described at level (1) (Table 2.3). But this can hardly be justified, if, as appears, the phonetic representation of speech is not among its principal functions in a literate community.

2.2.6 The language system internally represented

The behaviourist insistence on the centrality of the language user, rather than the language system, and so on the priority of speech, on 'natural' rather than semiotic grounds, indicates a more fundamental aspect of the conception of language with which linguists from Saussure onwards have operated: namely, that, in essence, it is to be regarded as an internal, psychological phenomenon. It was with Saussure's account, Harris argues, that linguists first began to think of their subject as the study of a mental language mechanism (Harris 1987:95). For Saussure, it is true, a language is never fully represented in any individual, but only in the community of its users, a matter of social agreement to which the individual is bound by virtue of his membership of this community (Saussure, op. cit.:13-14). However, insofar as it pertains to any individual, this social product takes the form of an entity stored in the brain (Saussure, op. cit.:24); and its function is confined to a closed 'speech circuit', which Saussure represents as the chain of psychological and physiological processes involved in communicating concepts between brains (ibid.:11ff; cf also Harris 1988a:99-100). As a result, the boundary drawn around the language system was inevitably assimilated to the boundary separating the individual's psychological activity from the facts of the external world. Speech was clearly intrinsic to the former; writing, just as clearly, was not.

Despite their opposition to the behaviourist approach to language learning, the appearance of computationally based cognitive models occasioned no great change in attitude towards written language. Instead, it led to a full-scale internalizing of the language system, even as its properties were narrowed. Psychological reality, guaranteed by the biological programme, became its 'originating principle' (cf above), its properties no longer simply a matter of adequate definition, but a fact of nature. Such developments have left writing, along with other cultural and historical artefacts, radically excluded. As discussed below and in the following chapters, however, Chomsky has ultimately been no less able than Saussure to displace writing from the heart of his system. Indeed, as Derrida's analysis suggests, writing was "always already" its necessary condition.

2.2.7 The 'alphabetic' view of writing

> We regard understanding as the essential thing, and signs as something inessential.
>
> (Wittgenstein 1974:39)

According to the orthodox view of twentieth century linguistics, the relationship between spoken and written language is merely representational, in sense (1) above (Table 2.3). With graphic symbolism emptied of intrinsic content, speech has come to be associated with language in general, and written language (at best) with its image. The failure of orthography to achieve exact correspondence to the phonological structure of a language has meant, however, that this image has come to be thought of not as 'photographic', but as, in some sense, deceptive or unreliable: "writing obscures our view of language. Writing is not a garment but a disguise" (Saussure 1983:29); "written records give us only an imperfect and often distorted picture of past speech, which has to be deciphered and interpreted, often at the cost of great labor" (Bloomfield 1933:293). According to Postal, "writing is a crude way of representing linguistic structure rather than a sign system with a direct relation to the world" (Postal 1966:91n20). Moreover, Saussure adds, "the more inadequately writing represents what it ought to represent, the stronger is the tendency to give it priority over the spoken language." (op. cit.:29-30). Such criticisms closely resemble those made in the seventeenth century about language itself, which was regarded as an unreliable representation of ideas. Both cases belong to the ('alphabetic') Aristotelian tradition, discussed further in §2.3.5 and the following chapter.

However, the accusation of crudity raises the question: crude with respect to what? Writing is not just the notation of speech; thus, its divergence from the spoken language is not just the consequence of notational inadequacy. Nor can any such representational view accommodate the notion that literate forms of discourse are constitutive of human cognitive operations. Nevertheless, an alternative tradition was already established long before the twentieth century. Though not always explicitly linguistic, it has focused on properties (especially decontextualization and permanence) of the written language which have ensured its differentiation from speech. As suggested earlier, one consequence is that, for all his protestations, Saussure's linguistics was conditioned by the possibility of writing. Behind his idealization of the language system is a notion of language derived from the written (specifically, the printed) page. These questions are considered in the following sections.

2.3 Written language in its own right

> The substance of ink has not received the same attention on the part of linguists that they have bestowed on the substance of air.
>
> (Uldall 1944:12-13)

2.3.1 Introduction

The sheer weight and influence of the western textual tradition would seem to imply that writing is its necessary precondition and that phonocentrism has never represented more than an impossible ideal. Even the ancients saw language through the medium of script: in Harris' view, Aristotle himself was misled by the assumption that the alphabet was the inevitable goal of graphic evolution, and modern linguistics has generally repeated his mistake. Once this is understood, their willingness to depict writing as a secondary symbolism must be open to question (Harris 1986:27; cf Vachek, below). Ever more complex attitudes to writing and the book have informed metaphors of cognitive activity, nature, life, and the sacred from earliest times (chronicled by Curtius 1953), suggesting that perception has been continuously shaped by reference to inscriptive practices. Moreover, it is a legacy of the 'Classical fallacy' (Lyons 1968:9; and below) that the written has regularly been taken by literate communities to provide the model for 'good' or cultivated language, constantly threatened by the "fugitive cant" of illiterate everyday speech, which "cannot be regarded as any part of the durable materials of language" (Johnson 1755/1963:318). The force of Saussure's exclusion of writing is itself an acknowledgment of the extent to which popular assumptions about language in general were likely to be derived from its written manifestations, a fact also recognized by Bloomfield (op. cit.:8; cf Vachek 1973:ch.1; also Stubbs, op.cit.:23ff). Linell (1982) portrays linguistics, despite lip service to spoken language, as even now permeated by a written bias; a point taken up below.

2.3.2 Early discussion of written language

The absence of much explicit reference to written language before the twentieth century indicates no lack of interest in issues specifically related to its written aspects. On the contrary, with the spread of literacy, particularly after the advent of printing, thinking in many areas came to be affected by characteristics of the written medium, and the properties of the written sign. Notwithstanding classical authority, issues affecting the written language naturally required serious consideration in their own right, although, more attention was given to the relation between speech and writing than to the 'written' characteristics of language as such. In particular, in the process of standardization, itself a consequence of the printing-press (Eisenstein 1979:117; cf Howatt 1984:75), proposals for the reform of English spelling raised questions about the most appropriate relation between speech sound and graphic representation and the function of the etymological information preserved in the

spelling system (cf Sheridan's project, below; these issues are also discussed in Howatt op. cit., esp. ch.7). These were, in effect, functional considerations, concerning the intended purposes of writing, and how best to achieve them. To some extent, such questions were as old as literate activity itself. Many developments followed from the difficulty of fitting a writing system suited to the conditions of one language to the different conditions of another, as happened, for example, with the origin of the Greek alphabet in the adaptation of Phoenician characters (Thomas 1992:55-6; Healey 1990:9), or again, in adapting Latin orthography to the emerging European vernaculars.[10]

By the seventeenth century, great interest was being taken in non-alphabetic writing systems, particularly Chinese and hieroglyphic characters, which appeared to establish an immediate connection between written signs and their referents (cf §3.3.3.1). Reference to these systems is significant, since 'derivativeness' is not obviously a feature of ideographs (cf Harris, below). Moreover, as Mary Slaughter suggests, the spread of print and rapid increase in literacy was producing more skilled and efficient readers, whose conception of the written word increasingly tended to be holistic or 'ideographic' (Slaughter 1982:86; also Bradley's view; cf below). One result seems to have been the growth of an explicit recognition of the semiotic independence of writing and speech as concurrent systems, allowing the possibility of forming a direct link between written words and ideas.[11]

Interest in these matters was greatest among scientists attempting to develop specialized notations to arrive at truths about nature: the desire to achieve precision in language led to increased concern with the nature of the written sign. Such work was therefore mostly philosophical; there were also conflicting conjectures about the origin of writing, particularly alphabetical writing, in hieroglyphs, or Hebrew characters, or divine revelation (cf Hudson 1994). However, there seems to have been little consistent reflection on the nature of written language in its own right. Indeed, Derrida suggests that it was only with the decline of the "hieroglyphist prejudice", which supposed the Chinese and Egyptian scripts to be truly 'philosophical' languages, that systematic attention could be given to the relation between writing and speech, in order "to conceive, in a manner at once historical and systematic, the organized cohabitation, within the same graphic code, of figurative, symbolic, abstract, and phonetic elements" (Derrida op. cit.:81). It will be argued, however, that the philosophical programme paved the way for the development of a symbolic (therefore, at root, 'written') concept of language and of mental operations with it. This, in turn, forms a crucial step in the process by which a written idealization of language came to be built into modern psychological accounts of cognitive activity.

In the eighteenth century, Sheridan conceded that written words may be regarded "either as types of sounds, which stand for ideas; or, immediate types of ideas, without any reference to sound" (1761:8). But for him there was no doubt that, in English at least, the dependent status of writing

was not in question. Instead, he blamed the "pedants" who had held that spelling should be a guide to the meaning of words, rather than to their pronunciation, for creating two different kinds of language, "spoken and written, which in all reason should have been as inseparable as body and shadow" (ibid.:13).[12] Since education was entirely concerned with writing, the young remained ignorant of an essential part of language. To emphasize this point, Sheridan reversed the usual attributions of permanence and impermanence:

> How can it be otherwise, when we have given up the vivifying energetic language, stamped by God himself upon our natures, for that which is the cold, lifeless work of art, and invention of man? and bartered that, which can penetrate the inmost recesses of the soul, for one which dies in the ear, or fades upon the sight?"
>
> (Sheridan 1781:122-3)

No less than for Plato, Sheridan's denial of writing simultaneously required its invocation, in the form of a speech that is divinely written into human nature.

2.3.3 Henry Bradley

Early this century Henry Bradley was one of the first to discuss the written language on its own terms. He, too, considered it in the context of a discussion of spelling reform, aware that "the waste of time in education caused by the want of consistent relation between the written and spoken word is a serious evil" (Bradley 1913:182), and convinced that schools should pay greater attention to the latter. However, his analysis emphasizes written language as radically independent of spoken, and thus, in terms of the levels set out earlier, shifts the ground of the distinction significantly towards level (3) (Table 2.3); in this respect Bradley anticipates the work of the Prague linguists. Contrary to Aristotelian orthodoxy he maintains that the two modalities were originally independent vehicles for the expression of meaning. Early writing systems made no necessary connection between the sound of a word and its graphic representation (pictogram, ideogram, etc.); rather, it was only with the appearance of the alphabet that writing became dependent on speech (Bradley op. cit.:186; cf Harris's similar argument 1986; also cf Vachek, below).

For Bradley, the tendency of efficient readers, even in phonetically based systems such as that of English, to adopt an 'ideographic' mode directed solely towards the meaning of a text, has been a primary influence on the history of the written language (op. cit.:169), accounting for its development as a functionally and structurally differentiated system (ibid.:177; cf Sapir, quoted above). Bradley notes, for example, the importance of the anglicizing of Latin and Greek vocabulary by classically educated writers for similarly educated readers, which took place in and through the written language with a view to written rather than spoken forms, and which only subsequently entered speech. In this case, he maintains, it would be correct to regard the spoken form as the

secondary symbol (ibid.:178). The clear implication is that writing, once established, profoundly changes the nature of a language, in a way that the linguist cannot simply disregard (again cf Harris). So, unlike ancient Greek, he argues, modern English cannot be understood without taking the written language into account (ibid.:180).

Bradley's pre-Saussurean outlook enabled him to recognize the current relevance of historical facts of language. And indeed, far more than speech, writing embodies its own history, preserving into the present the linguistic concerns of those (typically the educated and powerful) who write. This point is echoed by Baker and Hacker; as a result, the etymologies and historical associations of words and idioms, the style of Cicero, conscious or unconscious literary allusions, etc. "pump life-blood into current discourse" (Baker and Hacker 1984:274), making problematic the definition of a Saussurean synchronic moment. Does it, they ask, presently include most writing in English since 1450? "If it does, it is a curious form of synchronicity. If it does not, it excludes much of what an educated English speaker is likely to encounter (and comprehend)" (ibid.). Saussure's exclusion of writing has suppressed such questions.

At the same time, Bradley recognized, proper understanding of the written language was necessary for a full appreciation of speech. As long as no clear distinction was made between them, it was impossible to focus on the latter's non-written characteristics; in consequence, as Sheridan had noted, education took little account of it. Yet, by the turn of the century, social pressures were putting in question the text-bound approach to language, and to intellectual activity in general. In England, its embodiment in an education system which, hardly less than that of ancient Egypt, was designed to produce an elite whose highest forms were written exercises, literary texts, and what Donaldson calls 'disembedded thought' (Donaldson 1978:ch7), was increasingly under pressure to respond to the more practical needs of a broader cross-section of the population. Among other things, this required greater attention to spoken, as opposed to literary language. As Bradley observed:

> Of such teaching there has in general been very little in our schools, and this has done much to strengthen the tendency, already powerful, to regard the spoken tongue as a sort of annex to the written language.
>
> (Bradley 1913:192)

Ironically, it was at this time that the (written) "myth" of standard English arose, backed by the weight of Murray's Oxford Dictionary project, to supply a suitable form of the language for the masses, in place of their own 'inferior' dialects (Harris 1988b:18).

2.3.4 The Saussurean legacy (2): form not substance

Modern criticism of phonocentrism mostly focuses on the Saussurean confusion between senses of 'priority' discussed earlier, between the diachronic relationship of speech and writing and their synchronic relationship in a fully evolved language community and its individual members. As suggested, European linguists have tended to pay greater attention to the latter, from which point of view it is irrelevant that written language is neither universal nor naturally occurring: once established, whether in a phylogenetic or ontogenetic sense, it must be considered semiotically equivalent, even if unequally distributed.[13] From then on, the 'writtenness' of language will be part of its nature. As Harris puts it:

> The debate over the criterial status of speech somehow misses the vital point that although *homo loquens* is undoubtedly the precursor of *homo scribens*, the emergence of *homo scribens* makes a radical and henceforward irreversible difference to what a language is, irrespective of the medium employed.
>
> (Harris 1980:14)

It is, above all, in the work of Prague school linguists that the written language has been discussed in a framework capable of adequately accommodating both spoken and written norms. From their emphasis on functional rather than structural analysis and the normative character of written language (cf Vachek 1973:30) has emerged a linguistics that is not only concerned with the formal relation between the two systems, but also with the functional complementarity of their roles (Vachek 1959:416; 1973:16). This corresponds to levels to (2) and (3) in Table 2.3.

Differences remain over the extent to which writing and speech should be viewed either as transcodable representations of a single language system, or as fully independent systems. Unlike Bradley and also the glossematicists (for example, Uldall op. cit.), Vachek accepts that, historically, the written norm was indeed a secondary symbolism constructed on the basis of speech. Nevertheless, with the growth of a scribal tradition, its dependent status was superseded by the tendency to make direct connections between written text and external world without a "detour via the corresponding spoken utterance" (Vachek 1973:37), as borne out by the increased speed of silent reading, and the fact that it is not necessary to know how to pronounce the words of a foreign language in order to read it successfully. This general position is echoed by Abercrombie: "Writing is a medium for language in its own right, and though it is, in the last analysis, constructed on the basis of spoken language, the aim of writing is not, usually, to represent actual spoken utterances which have occurred" (Abercrombie 1965:36). For Halliday also, "writing never was, and never has been, conversation written down" (Halliday 1985:41).[14] According to Coulmas, written and spoken language are functionally and structurally differentiated in all literate societies. "An obvious consequence of this split, which is so pronounced in (literate) diglossic situations, is that writing is not just speech written down and should therefore not be treated as such" (Coulmas 1983:473; cf also

Vachek 1965:20). Once this is recognized, however, it is also necessary to consider the further senses in which the two norms depend on and influence each other (cf §2.4.2.5 below).

In any case, with respect to fully literate contexts, functional divergence of spoken and written language leads inevitably to a situation of 'binormism'. To be optimally functional, Vachek suggests, a language user therefore requires to be a 'binormist', in equal command of both (1959:415;417). This being so, the written norm cannot be regarded as dispensable. Indeed, "the development of a community's higher culture and civilization is unquestionably conditioned by the existence in its language of a written norm, the vehicle of higher needs and wants of the community" (ibid.:415; original emphasis). If a language is to develop the highest level of efficiency and 'functional capacity' (cf 1973:34), it will be necessary for it to include the written norm, which is the only way to ensure that it can meet the demands of all situations (1959:415). Conversely, communities lacking the written norm cannot be considered to have fully developed their potentialities (cf Vachek 1973:16f).

Undoubtedly, as Coulmas argues, acquisition of a written form makes language concrete and capable of permanence, and so extends its expressive power (Coulmas 1989:272); it "frees individuals from the tyranny of the present" (Furet and Ozouf 1982:310). Beyond formal and functional properties, however, it will be necessary to consider the two norms as types of sociocultural practice, from which point of view their independence has inevitably implied asymmetry of status. Aspects of these issues are discussed shortly.

2.3.5 'Ideographic' and 'alphabetic' views contrasted

The independence of the written language described here is founded on an 'ideographic' conception of the sign. The contrast between this and the 'alphabetic' conception reflects a basic difference in western attitudes to symbolic activity, and, as such, influences a wide variety of contexts. In order to understand the relationship between them as they figure in this and subsequent discussion, it will be helpful to bear in mind the difference between the real or imagined features of actual writing systems, on the one hand, and idealized notions of the sign and signification, on the other. In either case, however, the contrast between the two notions concerns their basic orientations towards the nature of the sign; respectively:

a) representational, involving the relation between the sign and its referent;

b) semiotic, involving the relation between the sign and its meaning.

In broad terms, 'alphabetic' ideas belong in the former category, 'ideographic' ideas in the latter. In detail, however, the picture is less straightforward.

In the history of inscriptive practices, the Greek alphabet appeared relatively late, and was apparently a unique phenomenon, although it marked no absolute discontinuity with its precursors (cf Healey 1990). Momentous claims have been made for this Greek 'invention' and its consequences (cf chapter 6); in relation to (a), however, the strength of the alphabet was that it represented speech more economically and less ambiguously than previous systems, ensuring, as they had not, that anything spoken could in principle be written (cf Goody and Watt 1963:39; also §6.2.3).[15] As such, it was simpler to learn and use, and not tied to any particular division of nature or state of language.

At the same time, alphabetic notation provided a model for the Aristotelian idea of writing, and symbolization in general (cf §2.2.2 above), central to which, as noted, is the concept of the copy. The ideal towards which it strives, constantly threatened by the unreliability of the relation between signs and their referents, is that of perfectly transparent ('literal') transcription, to achieve which would seem to demand an unambiguous, analytical notation, set in a fixed, one-to-one relationship with extralinguistic objects. In a sense, it is this ideal that motivates the 'textual' tradition discussed in chapter 3. In setting forth the construction of a character designed to achieve it, as an abstract philosophical proposal, Bacon in fact turned to the Chinese (ideographic) writing system, the basis of which, he believed, was a pairing of sign and referent of just this kind: independent of speech and its defects, their meanings determined by the external objects for which they stood. Similar misconceptions of the Chinese and hieroglyphic systems persisted into the eighteenth century (Hudson 1994; cf §2.3.2). Yet the 'real character' which Wilkins, for example, actually developed on Baconian lines did not employ ideographs, but a more flexible and perspicuous taxonomic/alphabetic notation, which more effectively embodied the 'scientific' notion of language and the world as composed of atomic elements, capable of being combined into complex wholes (cf §3.3.3).

As its negative image, this idea entailed the notion of the sign as mere copy, mechanical substitute for a 'real' original (the speaking voice, the world, the word of God), the nature of which it helps, contrastively, to define. This informs the aspects of writing, especially print, most emphasized in the Rousseauan tradition (cf §2.2.2 above). It also underlies Saussure's contempt for the written representation of language (1983:25), and other dismissive attitudes examined earlier in this chapter.

As will be discussed in chapters 4 and 5, the 'alphabetic' notion also implies a comprehension process that reflects the componential properties of the written text. The writers' 'message', broken into analytical units, requires to be reassembled into a coherent representation in the mind of the reader; learning to read in effect involves speeding up this process of reassembly until it becomes subconscious. A notion of progress in this sense, from 'control' to 'automaticity', is widely shared by modern cognitive theories of reading development in first and second languages (for example, Samuels and Eisenberg 1979; Grabe 1991; cf chapter 5). Indeed, the representational view has been specifically concerned with the processing of written text since it has needed to explain the mental

operations by which a sequence of discrete symbolic units on the page is turned into comprehended meaning (cf §4.3 below). However, as will be seen, the basis of proposed models of comprehension remains componential, so that, even in accomplished performance, there is no liberation from the linear, derivative code (cf Sapir's view, §2.2.5 above; also §4.3.2).

By contrast, from an (ideal) 'ideographic' point of view, the notion of the sign as copy is the root fallacy of the Aristotelian tradition. Semiotically conceived, as in Saussure's axiom that language is 'form not substance', sign systems are equivalent, with no reference outside themselves to guarantee an acontextual meaning. The sign, in this sense, necessarily arises in intersubjective space; human beings are semiotic animals, constantly and primarily engaged in expressing and interpreting meanings. Learning to use language is then a matter of 'learning how to mean' (in Halliday's terms; cf, for example Halliday 1975), hence learning to work with and adapt to the constructive/expressive possibilities of signs. In this view, the notion that "some human being must have been the first to use a symbol" (cf chapter 7 note 2) is false: in relation to the ideographic sign, it is meaning which is prior,[16] and meaning is necessarily public. As noted, linguists in this tradition have thus been predisposed to accept the 'form not substance' side of Saussure's theory, and to recognize the potential for differentiation of spoken and written modes.

From this point of view, as argued in detail in the following chapters, there is no relation between the visual units of the text and the understanding achieved by the reader. The nature of understanding is constructed in public exchange, and is independent of whatever mental processes, etc. may be required to decipher the text. Thus, where the 'alphabetic' sense remains tied to a notion of the linear code and componential processes of which 'comprehension' is a final product, the 'ideographic' sense sees the two as belonging to categorically distinct orders. Experienced readers approach texts as already having a meaning, understanding which is not, therefore, in any sense a 'product' of reading. Moreover, as noted by both Bradley and Vachek, experienced readers are able to read even alphabetical text 'ideographically' (indeed, as noted, the alphabet, especially print, have made such reading the norm in modern life).[17] It is the fact that its symbols come to be seen purely as units of meaning that has enabled the development of written genres corresponding to no prior spoken utterance (cf Kittay, §2.4.2.4 below). The lines of the contrast between the two conceptions discussed here are set out in Table 2.4.[18]

Table 2.4: Alphabetic and ideographic conceptions contrasted

ALPHABETIC	IDEOGRAPHIC
Aristotelian	Saussurean
'American'	'European'
derivative of speech	prior to speech
representational	expressive
copy	original
semiotically subordinate	semiotically equivalent/independent
excluded from (private) language system	constitutive of (public) language system
mnemonic	creative, original
transparent, literal	opaque, metaphorical
linear	non-linear
syntactic	semantic
mechanical	non-mechanical
tied to mental processes	distinct from mental processes
componential	holistic
arithmetical	algebraic

2.4 The relation of speech and writing in literate societies

2.4.1 The interface between the spoken and the written

Despite the semiotic equivalence of the two norms, their social status and distribution are plainly unequal. The latter fact cannot be ignored, since the written norm is inevitably used in contexts shaped by prevailing social attitudes. This is particularly relevant to education, where behaviour derived from the social distribution of language norms has too frequently been interpreted psychologically, as a reflection of learners' innate intelligence. The following sections examine certain social implications of the functional differentiation of spoken and written norms; those attributable to literacy more generally are considered in chapter 6.

Goody (1987:262-3) distinguishes three aspects of the interface between the oral and the written, namely:

i) differences between oral and written languages (for example, Hopi and English);

ii) differences between oral and written registers of a single language;

iii) differences between the performance of individuals in oral and written registers.

Those of concern here are (ii) and (iii), which will therefore be discussed briefly, beginning with the functional differentiation and mutual influence of spoken and written norms within a language community.

2.4.2 Differentiation within the culture/community

While it may be, as Coulmas alleges, that literate contexts always lead to functional differentiation (cf above), for the written norm to develop functional (and psychological) diversity in the modern sense certain conditions of literate practice and so of social organization seem to be required. These include, in particular, a loosening of scribal control over writing, the circulation of books outside closed institutions such as monastic libraries, and the production of clearly legible text by such means as the separation of words and the adoption of cursive script. As Kittay maintains, it is likely that the former was crucial to the development of silent reading (Kittay 1988:215; cf also Saenger, for example 1991). These were by no means general developments before the Middle Ages, and were only finally secured against the possibility of reversal by print (cf Eisenstein 1979). As Kittay suggests, however, the boundary between channels, as between text and context, is never fixed: historical changes of the kind mentioned cause it to be redrawn, such that it is impossible to connect any single set of functions with either speech or writing. Instead, function must be established with respect to a culture and a time (Kittay 1991:165; also Baron 1981:178; for non-western concepts, cf also Bloch 1989; a summary of features held to distinguish spoken and written norms, with particular reference to modern English, is set out in Appendix 1). However, the history of writing as social practice continues to have a significant bearing on the present social perception of the written norm and its functions, and hence on language use and literate behaviour in general (cf Stubbs' notion of the 'social priority' of written language; 1980:29ff; Table 2.5 below). It is therefore desirable to approach writing first of all from a historical perspective.

2.4.2.1 Writing and social prestige

If the spoken/written interface is perceived differently at different periods and in different cultures, generalizations must be treated with caution. But since it remains that language locates its users in a network of social relations, the differentiation of spoken and written channels is unlikely ever to be devoid of social and ideological implications. These tend both to reflect and also to bring to focus existing features of the social hierarchy. Typically, it is divisive and exclusive, associated with a stratification of society into the literate and powerful (themselves divided according to their ability to write and create meanings or merely read and reproduce them; cf Kress 1982, and below) and non-literate others. Goody and Watt attribute the success of the Greek alphabet to the 'democratic' accessibility inherent in its direct relation to speech sound which non-alphabetic scripts lacked (Goody and Watt 1963:39). However, as they concede, democracy was by no means among its immediate or universal consequences. Eisenstein suggests that print was more important in this respect (for example, 1979:114); yet even after the rise of the printing press, the development of written norms took place in the context of exclusive institutions and attitudes created by the long period of scribal literacy, during which writing was controlled by a tiny elite. In most societies, access has been in the hands of groups involved closely with religious, legislative and bureaucratic

authority. For early societies, indeed, it is unlikely that writing served any broader functions: those initiated into the skill were embarking on careers that entailed the exercise of certain kinds of power in the service of the state (cf especially Goody 1986; also Grafton and Jardine 1986). Becoming functionally literate involved (as it still does) coming to participate in the creation and exchange of public meanings different in kind from those exchanged orally (Halliday 1985:41).

The result has been a powerful and enduring 'scriptist bias' in the social history of writing, which, according to Harris, both in western education and other literate traditions, "fosters respect for the written word over the spoken, and respect for the book above all as the repository of both language and the wisdom of former ages" (Harris 1986:46). It is a bias to which Vachek's notion of 'higher' functions is heir, and can only tend to sustain. Even today, at least as regards the full functional potential of the written norm, writing largely serves the purposes of those (comparatively few) who create meanings in society, making access to it especially difficult for non-mainstream groups and speakers of non-standard language varieties (cf Kress 1982:3). The educational consequences of this are considered further shortly.

2.4.2.2 Differentiation between genders

This inequality in the distribution of access to writing is widely found between genders (cf Goody op. cit.:270), with a predictable tendency for the powerful, productive, creative aspects of literacy to be associated with males. In the western tradition, girls may have generally read more than boys, but they have also generally written less (Clifford 1984:474). Again, it would be wrong to infer that literacy was the immediate cause of these differences. Nevertheless, it interacts with social tendencies already present, and supplies a means by which they can be given durable concrete forms, thus tending to maintain them. Gender distinctions may, for example, have a counterpart in choices among writing practices, as in Japanese, where the writing system puts at its users' disposal a distinction between *kanji* (Chinese) characters and *kana* (indigenous, syllabic) characters. The former, detached from speech sound, are considered appropriate for serious issues, and are expected to be used more extensively by males; the latter, tied to speech, are largely reserved for women and children. According to Loveday, before the end of the twelfth century women were not permitted to write Chinese characters at all, a fact "which prevented their access and contribution to the higher, intellectual levels of the written channel" (Loveday 1986:12). Furthermore, it is noted by Miller that up to the end of Second World War, Chinese loan words, written in Chinese characters, were generally considered 'too complicated' for females. It remains the case that male given names are written in *kanji* (and typically not spoken), while female names are usually written in *kana* (Miller 1986:25). Choice between scripts expresses, but also facilitates and reinforces, a clear social distinction.[19] In the Vai literacy study, Scribner and Cole not only found, as expected, that women were excluded from Qur'anic literacy on religious grounds, but also an absence of women literate in

Vai script, despite assurances that women were not prevented from learning it. While the authors felt unable to offer an explanation for this (Scribner and Cole 1981:62), it is clearly congruent with a division of social roles in which the public, official and 'specialized' functions normally served by literate practices, particularly within a highly restricted context, are regarded as a male preserve. Gender-related differences in children's reading activities revealed by data from the Hong Kong survey are discussed below (§8.4.2.1). Such distinctions are all the more marked when the spoken/-written divide also involves a difference of language.

2.4.2.3 'Learned' languages

Texts produced in the circumstances of restricted, scribal literacy, typically to record those (religious, literary, etc.) aspects of public life on which a high cultural value is set, come, with time, to preserve forms of the language that diverge from the contemporary spoken dialects (except where, as in Chinese, there has never been a close correspondence between spoken and written forms; Haas 1981:21; Lyons 1968:40ff). It is likely that the length and continuity of a written tradition will accentuate these factors. When, eventually, the understanding and interpretation of the record itself require specialist training, the textual tradition will be predisposed to regard the older forms as the 'true' ones. Lyons notes the importance in this respect of the Alexandrian scholars who edited and transmitted the literary output of the Classical period, the prestige of which led them to believe that these texts preserved the Greek language in its 'pure' form, in comparison with which its contemporary state showed a sad decline (Lyons 1968:9). This ('Classical') fallacy, Lyons believes, has continued to exert an influence up to the present (Dr Johnson's estimation of the unlearned language of his day has already been quoted, §2.3.1).

In Lyons' view, the two forms rarely evolve into completely distinct languages, so that the notion of the priority of speech need not be abandoned; but arguably the conditions in which they have done so are significant. A diglossic split between them may in fact be typical of societies in which dissemination of the written language is highly restricted: "The smaller the number of those who can read and write, the more restricted the variety of the language which is written, and the smaller the chance that knowledge of the written language will influence the spoken language" (Coulmas 1992:23; Haas refers to 'restricted' or 'arrested' standardization, op. cit.:24). In such circumstances, historical divergence will be accelerated, favouring the development of languages controlled exclusively by writing, and sole property of the literate; it can thus be regarded as a direct consequence of the functional differentiation of written and spoken norms.

This has notably been the case with Latin in medieval Europe, with Sanskrit, classical Chinese, Rabbinic Hebrew and, to some extent, with classical Arabic in the present day (Ong 1977:ch1). As Ong notes, such 'learned' languages are then no-one's mother tongue, typically transmitted by males to other males within a religious/educational institutional framework that constitutes a source of

considerable power, stable and insulated from changes in the vernacular outside. Libraries and schools, repositories of the written word set apart from daily life, develop into major centres of specialized, culturally valued knowledge, whose material needs nevertheless have important implications for the organization of society as a whole (Goody 1986:17;34), and which create "a new axis of 'class' differentiation based on knowledge of the texts" (Goody 1987:237).[20] As already suggested, this has tended to survive in western education into the present, leading to an increasing divide between the 'high' literate culture of the school and the 'low', oral vernacular of home (cf Furet and Ozouf 1982:59; and discussion of the situation in Hong Kong in §8.2.2.2 below).

As 'learned' language, the written norm comes to serve a range of authoritative but non- (or only derivatively) spoken functions. Here, too, the precise nature of these functions relates to social and linguistic features of the context in question. Latin owed its position to the way in which Christianity took over the educational institutions of Rome, but lost touch with its urban and urbane literary culture. Auerbach argues that this isolation made it suitable for the technical expression of the notions of scholasticism, but deprived it of contact with the currents and idioms of the vernacular speech community (Auerbach 1965:274). Since the vernaculars could not be written, "there was no language of general culture" (ibid.:255). In Auerbach's view, there could not be an educated European public until "the mother tongue had once again become the true vehicle of culture", as it did in the Renaissance (ibid.). By contrast, in the Arab world, despite the independent evolution of the various vernaculars, written classical Arabic is still held to preserve the true, original form of the language. In this case, belief in the inviolability of ancient linguistic precedent - including even the forms in which the grammar is taught - is inseparable from a conception of the purity of Islam: the authority of the written text has come to underwrite that of the religion, and thus also a conservative notion of Arab cultural identity (Suleiman 1994). Written and spoken Chinese, on the other hand, by virtue of the morphemic character of Chinese script, were never more than loosely associated: the written language, preserved by a small group of literati for reasons other than representing speech, became the basis for a literature remote from spoken language (Coulmas op. cit.:23).

2.4.2.4 The autonomy of writing

In Kittay's view, the growth of "the written as written" has meant that, in certain cases, a form of writing develops that makes no attempt to compensate for its lack of correspondence to prior speech but exploits new possibilities, for example for kinds of unlocated utterance that must be regarded as exclusively written (1988:212ff), in which the reader is not intended (or perhaps even able) to 'read in' the original utterer (ibid.:169). This has enabled writing to appear acontextual, beyond reach (1988:226), endowed with special authority as a manifestation of the eternal and 'literal'. In this process of decontextualization, Harris notes the importance of print, with the possibility it inaugurates of unlimited mechanically produced copies: "The manuscript page is a constant

reminder that what we are dealing with is in the last resort communication from human being to human being; whereas the printed page invites us to inspect a visual representation of ideas nobody owns" (Harris 1980:130-1). This would suggest that the categories of the literal and autonomous, naturalized in western thought, have a 'textual' origin, a fact to which many recent scholars have drawn attention. Bakhtin attributed the illusion of unlocated utterance to the fact that it had been formed around the written language (cf §2.1.3 above); Olson's views are discussed in chapter 3, where these issues are explored further. They are ignored, however, by the linguistic view of writing as an unproblematic recoding of speech, which has, instead, mistaken the detachment of symbol from context for the truth about the nature of written symbolism itself.

2.4.2.5 Influence of writing on speech

Since, in fully literate contexts, speech is never innocent of contact with writing, the idea of a 'pure' norm for either is hardly tenable, and the exclusion of writing from the heart of the language system is unjustified. It would be more correct to speak of mutual influence mediated by a given social context, in which the two norms acquire a different, if often overlapping, range of functional potentials. However, writing, the cultural artefact, is more susceptible than speech to technical modification; it is therefore chiefly through literate practices that such modifications are likely to affect the language community at large. Eventually, significant areas of the community's language activity may come to be entirely dependent on its written/textual manifestations. As Bradley recognized, it is the written language that makes possible the evolution of an extended (mostly technical and literary) vocabulary which is only secondarily spoken. In Ong's view, the very existence of stable, large-scale language communities in the modern world is a consequence of the technical possibilities of writing: "The mass languages with magnavocabularies ... could not sustain themselves at all without writing and print", but would eventually fragment (Ong 1977:40; 1982:107; he adopts Haugen's term 'grapholect' for such languages). To a significant extent, therefore, the language, as standardized and institutionalized in the dictionary and the grammar book, and the accumulation and extension of knowledge it permits, is a written phenomenon. Moreover, print, which has been instrumental in the process of standardization, has also helped to naturalize a conception of language as capable, in principle, of being abstracted from local variation (a conception reinforced by linguists' accounts of speech as 'fragmentary' and 'defective'; cf below). In this sense, Harris argues, Saussure was concerned not with speech at all but with a "spoken counterpart of typography" (Harris 1987:52; cf below §2.5.1).

Above all, however, it is the prestige and permanence of the written norm that has ensured its influence on speech. Standard (by implication, 'the best') forms have fed back into spoken language, tending to favour children exposed to literate discourse (cf Akinnaso 1982:117), and, particularly, to isolate and disadvantage those whose regional or social dialects are remote from them, for whom the

written language is, at best, semi-foreign. At school, such children's failure to cope with standard written syntax and orthography, and consequent differences in their performance, are only too likely to be noted down by teachers as differences (that is, deficits) in intelligence (Kress 1982:33). To pursue the influence of writing on speech, it is therefore necessary to turn to this question of individual differences (Goody's point (iii) above).

2.4.3 Differentiation in individual performance

2.4.3.1 Psychological priority of the written norm

The interface between spoken and written language in individual usage is likely to reflect that in society at large. In particular, the high status and inherent conservatism of the written norm, with its powerful institutional superstructure, means that it is readily accepted by educated speakers as the model for language in general, and implicitly forms the basis of their linguistic judgements (cf Coulmas 1989:271; Harris 1986:46). It is for this reason, according to Vachek, that writing should be considered psychologically prior (1974:30). In his view, in communities where a written norm is established, the "momentous" status of the written word means that many speakers "will first visualize the graphical shape of the word to be generated and only then pass on to its phonological shape" (ibid.:31; although, as he notes, this is more likely to apply to words than sentences, at least in alphabetic scripts). This view was anticipated by Bradley, who argued that the educated person's notion of a word "is a blend of its audible and visible form" (op. cit.:184); Lloyd James expressed a similar idea with specific reference to print. Once print has become fused in our minds with the spoken language,

> we cannot think of sounds without thinking of letters; we believe letters have sounds. We think that the printed page is a picture of what we say. We believe we ought to speak as we write, and that the mysterious thing called 'spelling' is sacred.
>
> (Lloyd James 1938:29; cf Chaytor 1945)

For Harris, this is evidence of the profound 'alphabetic tyranny' of European culture and conception of language: "For *homo alphabeticus* spelling comes to take priority both over speech and over writing .... To be able to pronounce a word but not know how to spell it is just as much a sign of ignorance as to write it wrongly spelled" (Harris 1986:44-5).

Adoption of a 'written' standard will therefore bring marked social advantages. For this reason, it is constantly encroaching on the spoken language, especially in the case of speakers with political or social ambitions. Many such speakers come to speak the written language, an ability explicitly fostered by schooling (cf Coulmas 1983:469). "To be able to speak as one writes is a highly valued ability, and carries with it favourable judgments about the speaker's level of intellectual ability and control" (Kress op. cit.:10).

The association of literate with cognitive competence reflects the bias inherent in an educational tradition to which the written word has so long been central, which values hierarchical, 'ideational', information-bearing argument and exposition above episodic, affective, action- and event-orientated narrative (see Appendix 1). As work by Labov, Gee and others has demonstrated, the latter, typically associated with uneducated speech, along with other (notably practical) manifestations of intelligence, though consistently undervalued, are in no sense less logical or less organized (see Labov 1972:ch5; Gee 1990; Sternberg and Wagner 1986). But the wide sphere in which literate and numerate skills are required in modern life, together with the supposed 'interiority' of mental processes, has ensured that their internal mental counterparts - abstract symbolic computation and verbal reasoning - have, as Olson notes, "succeeded in essentially preempting the entire concept of intelligence for themselves" (Olson 1986:350). The measures of intelligence by which children are graded in modern educational systems, reified as defining mental attributes, are, above all, measures of competence in the "written as written" (in Kittay's phrase; cf above), in the unlocatable utterance, the autonomous text. If, as in Luria's use of syllogisms to test non-literates' ability to draw logical inferences (Luria 1976:102ff), subjects lack the relevant understanding of autonomous text, literate practice will be confused with the mental capacity being tested (cf Olson 1986:340-1).

The effect has been to distort judgements, and confirm cultural prejudices to such an extent that few of the prevailing concepts in these areas, whether overtly evaluative or not, can be regarded as uncontaminated. Ultimately, it has helped to fix a gulf between literate and oral, 'advanced' and 'primitive' mentalities, etc. In reality, as Olson observes, intelligence can never be understood, still less measured, without proper attention to the whole range of cultural practices in which people engage (Olson ibid.:343).

2.4.3.2 Writing and thought

The pervasiveness of this bias makes the cognitive implications of writing particularly difficult to assess. As in the larger cultural context, reference to 'higher', or more 'advanced' functions, etc. readily suggests an evaluative hierarchy (the reverse of a Rousseauan retrieval of primitive wholeness) in which literate and successful products of the education system exemplify an intrinsically more developed, therefore more fully human form of life than that of 'merely' practical, speech- and context-bound individuals. This is a difficulty with Vygotsky's use of the notion of 'higher' mental functions, no less than with Vachek's 'higher' cultural functions already mentioned. 'High' may simply be a reflection of the prestige of the written norm, and the functions writing fulfils, projecting qualitatively different mental capacities or modes of cognition where there are instead merely sociolinguistic differences in the use of, or access to the norm itself. The spoken/-written interface in individual usage is inevitably the locus of such difficulties, so that it will always

be pertinent to ask, as Bruner does: "Is higher ground better ground? Whose higher ground?" (Bruner 1986:148; original emphasis).

On the other hand, it is still necessary to take seriously the possibility that written language may have cognitive implications. As will be suggested later, it will therefore be necessary to adopt what Wertsch calls a 'tool kit' approach to the ways in which culturally elaborated forms of activity create and interact with cognitive potential (Wertsch 1991:ch.5; cf chapter 7 below). This makes it easier to separate writing from its social connotations, and treat it as just one mediational means among many others, thereby allowing that, for different groups and on different occasions, alternative means may serve comparable purposes, and conversely, that similar means may also serve different purposes. Here it is sufficient to note that the view of writing as derivative has left little scope for any consideration of its potential influence on cognitive processes (cf Goody 1987:261), even when, as illustrated, such an influence has been widely assumed. For Harris, "it would be [a grave] mistake to suppose that speech is psychologically the same activity in a literate and a pre-literate community" (Harris 1983:14). The shift to representation changes the way in which language is conceived: speakers who are also writers will regard speech as potentially transcribable. Moreover, a literate community will appreciate that what is customarily spoken is not customarily written (ibid.). Olson and Astington argue that participation in literate culture and its discourses leads to various forms of talking (and so also thinking), irrespective of whether an individual can read or not (1990:711).

There is evidence, however, that the speech of literates is also directly influenced by their knowledge of the written language. Reder's contribution to the Vai literacy study (Scribner and Cole 1981:ch.11) indicates that the written forms of words affect their spoken forms and their mental representations, independently of semantic or phonological context (op. cit.:195), a finding which, in Frith's view, "we can hold on to ... as evidence against the theory that states that written language is necessarily secondary to spoken language" (Frith 1983:605). Work reported by Ehri (1985; 1993) and Scholes and Willis (1991) lends some support to the idea that speakers' awareness of, and ability to manipulate, phonological units is dependent on their knowledge of alphabetic script (Scholes and Willis op. cit.:218). Writing supplies a form in which to fix and conceptualize the transient, potentially ambiguous sounds of speech, and thus forms the basis of a child's emerging metalinguistic awareness (Ehri 1985:344ff). However, the conclusion Scholes and Willis draw from their results illustrates how easily such work can lead to cognitive pigeon-holing. They claim that alphabetic literacy is a prerequisite of fully developed linguistic (and mental) competence; illiteracy is therefore a "handicap ... far more profound than is suggested by the inability to read" (op. cit.:230), since it implies an inability to "think [intensionally] like Western man" (ibid.:228). But this is the kind of unjustified projection of cognitive difference (specifically, 'deficit') from non-standard literate practice that was referred to above. It ignores the possibility that alternative means

may be available from the cultural 'tool kit', and instead erects an internal division between the (literate) "person of formal intensional competence" and the (illiterate) "person of extensional, concrete competence" (ibid.:230) by which their respective mental characteristics are fixed and defined.

In a number of works, Olson has put forward a more general argument for the primacy of written language in modern consciousness (for example, Olson 1977, 1991b, 1994). In his view, it is only through writing that language becomes susceptible to analysis: "writing systems provide the concepts and categories for thinking about the structure of language rather than the reverse" (Olson 1994:68). Writing thus creates an enhanced and more specific kind of linguistic awareness. Moreover, he argues, coming to 'speak a written language' or 'think textually' has a decontextualizing effect, and establishes a notion of meaning as independent of individual speakers, hence 'objective': "perhaps only with development in a literate culture, the language comes to be an autonomous domain in which 'meaning' in the dictionary sense can be established" (Bruner and Olson 1977-8:8). Once a script has been assimilated as a model for language, it becomes extremely difficult for its users to see how language might appear to anyone unfamiliar with that model (1994:262); the language, and so the world, are perceived through the structure of the written language. Among other things, alphabetic writing increases the language user's tendency to think analytically, to believe in the factuality of the external world and the givenness of literal truth. Operating with such a language thus inevitably "puts an indelible stamp on human cognition" (Olson 1994:282), one that was crucial for the rise of Western scientific thought.[21] Olson's arguments are examined further in the following chapter; the role of written language in cognitive development is discussed in greater detail in chapter 7.

2.5 Conclusions

2.5.1 Written bias in the language system

> Linguists aver that they study the spoken form of the language, not the written. In reality this means that linguists are prepared to accept the linguistic ability of the individual language user as constituting perfectly good evidence for the study of linguistic forms, rules and processes. It does not mean, in most cases, the linguists study speech.
>
> (Kress 1982:16-17)

As this chapter has sought to show, there is some reason to be sceptical about the claim of twentieth century linguistics to be solely concerned with the spoken language. It has evolved in a community with an already fully established written norm which, far from being easily 'unthinkable', has profoundly shaped its activities, including the way in which it has represented speech, and what it takes the nature of its object to be. It is arguable that, notwithstanding their public exclusion,

'written' assumptions have permeated linguistics at every level: language, both as abstract system and as the possession of its users, has more often than not continued to be implicitly identified with the written (specifically, the printed) norm. As noted above (§2.2.4), Harris argues that the salient features of Saussure's linguistics (its idealization, its concern with linear ordering, its choice of phonological unit) all derive from properties of the printed page: "It was Gutenberg's printing press, not Broca's laboratory, which provided Saussure with the models his linguistics needed" (Harris 1987:51).

If this is so, the assumption that the units of a language unproblematically pre-exist their depiction in the writing system must be open to doubt. Many of them, such as the sentence, the word and the phoneme, along with the distinction between consonants and vowels, all originate as units in written language (in the last case alphabetic), and are unlikely to have arisen without it (cf Halliday 1985:66; Harris 1980:11; Linell 1982:83; Coulmas 1989:270; Olson 1994:85).[22] It is for this reason that Olson asserts that "writing is primary in linguistic consciousness" (Olson 1994:265); "writing provides a model for speech; all that is required is that speech be seen, that is, heard in terms of that model" (ibid.:85). Bloch comments, "every writing system imposes as much structure as it reflects" (Bloch 1989:27). Both the Aristotelian view that writing is a notation of prior speech sound, and the post-Saussurean description of speech as a set of independently existing, discrete phonic units which can be paired off with an equivalent set of visual symbols, appear in reality to be consequences of a conception of language founded on the possibility of alphabetic writing.

Similar arguments have been advanced for higher order aspects of the language system. Linguistic concepts, such as ambiguity, depend on utterances being detached from context; but the only place where a sentence may appear without suprasegmental features is on the written page (Coulmas 1989:270; Culler 1988:218). Kress argues that linguists have essentially abstracted their models of grammatical structure from the written language (Kress op. cit.:17). Above all, the implication that, underlying the surface deficiencies of normal speech, there exists a 'pure' representation of what speakers ideally know has itself been alleged to derive from the written language (moreover, the written language favoured by what Street calls "the academic sub-culture"; Street 1984:68) (cf Harris 1980:13ff; 1983:13-14; 1987:51ff; Culler 1988). The notion of competence is certainly closer to writing than to speech. Indeed, Harris argues, the only possible standard against which speech could be judged imperfect - "rather restricted in scope ... and fairly degenerate in quality" (Chomsky 1965:31) - is that of writing (Harris 1980:6). Halliday criticizes Chafe's characterization of speech as "fragmented" on the same grounds (Halliday 1987:67; see, for example, Chafe 1982): in an oral community, any such claim would be unintelligible.

In effect, these views require that 'ordinary' writing, the external code whose notational crudity is inadequate to capture the sounds of speech (cf §2.2.7 above), be complemented by another, much like

the 'arche-writing' of Derrida (Derrida 1976:56), a perfect text inscribed in speakers' minds (or brains) to guarantee the linguistic integrity of their utterances. The next chapter will discuss the nature and implications of this text in greater detail. That such a picture should go largely unchallenged is a consequence of the internalizing of linguistics and the resulting assumption that purely descriptive categories must be epiphenomena of 'deep' mental features.

The confusion between the historicocultural consequences of the written tradition and aspects of the psychological make-up of the language user is most explicit in Chomsky's remarks about the English orthographic system. No longer simply a recoding of the spoken language in visible symbols, the written form is portrayed as embodying a distinct level of psychological representation:

> Conventional English orthography in its essentials appears to be a near-optimal system for representing the spoken language; it is to a large extent merely a direct point-by-point transcription of a system that the speaker of English has internalized and uses freely.
>
> (Chomsky 1970:4; cf also Chomsky and Halle:184n19)

In reality, these facts require diachronic interpretation. The sound pattern of modern English did not precede its present orthography (cf Uldall; in McIntosh:38n2). Rather, speech has evolved much further than spelling over the last four centuries, so that, as Coulmas notes, "most regularities of English spelling become apparent only on the level of morphophonemic representation" (Coulmas 1989:170). In other words, what 'underlies' the present system of English orthography is an earlier system which was more directly phonetic, not some level of internal linguistic 'competence'. In Chomsky's account, the history of the language, excluded from the structuralist language system, is projected back on to it in the guise of a psychological fact about (English) language users. As Vachek observes, such views offer unintentional endorsement of the importance of the written norm, which "has become so powerful ... that it asserts itself also in non-functionalist linguistic conceptions" (Vachek 1972:144). Aronoff traces back to Saussure the identification of psychological representation with alphabetic orthography, and the willingness to take the alphabet as the actual form in which the mind processes the phonological structure of the language (Aronoff 1992:78). He concludes:

> If Saussure, Sapir, Chomsky and Halle all appeal to alphabetic writing of one sort or another as having some privileged psychological status, then they ... have been caught in the web of their own orthography.
>
> (ibid.:81)

In conclusion, we may note the four major, interconnected factors which Linell identifies as responsible for what he calls the written language bias in linguistics, and which, in his view, remain influential today. They summarize many of the arguments presented in this chapter. They are:

(1) the role of literate technologies in determining what language is;

(2) the past activities of linguists in the development of written standards, the promotion of literacy and the study of foreign (especially classical) languages, usually for some further political (etc.) end;

(3) the high status generally attached to the written language and its norms;

(4) the use of written language as the medium in which all linguistic description takes place (Linell 1982:13ff).

2.5.2 The priority of writing

> The view of man's logoid capacities which has been handed down in the Western tradition is unmistakably the view of a literate society.
>
> (Harris 1983:14)

The foregoing sections illustrate the important ways in which written language shapes the life, thought, and communicative behaviour of a literate community, such that, where literacy has a long tradition, writing and speech are intimately connected and mutually defining. To the extent that this is so, there is little point in seeking to justify the exclusion of the written norm by adducing 'priority' arguments: the secondary diachronic status of writing has little or no bearing on the relation between speech and writing in such contexts, including any context in which the question of priority is likely to be discussed. Moreover, it will be clear that there are compelling reasons in such cases for treating the written language as itself primary in at least certain senses, as set out in Table 2.5 (following page).

Table 2.5: Senses attached to the 'priority' of writing

(i)	**Social priority**	beliefs about the written norm frequently shape attitudes towards language in general.
(ii)	**Priority of authority**	the written language is generally invoked to determine canons of correctness.
(iii)	**Priority of status**	writing occupies, and in part defines, higher status, more public functions.
(iv)	**Cultural priority**	writing creates and transmits 'higher' cultural achievements and values.
(v)	**Historical priority**	the past is primarily 'written'.
(vi)	**Intellectual priority**	writing enables greater precision of expression than speech, promotes critical, analytical attitudes, and thus defines 'higher' or more 'advanced' modes of thought than speech.
(vii)	**Psychological priority**	writing is primary in linguistic consciousness. "In literate communities speech is intuitively felt to be a rendition of writing, not vice versa" (Coulmas 1983:469).
(viii)	**Descriptive priority**	the writing system ultimately supplies the units used in the linguistic analysis of speech.
(ix)	**Autonomous priority**	Writing is able to stand alone, independent of the (non-linguistic) circumstances in which it was produced.
(x)	**Priority of scale**	The major part of modern, literate languages consists of technical, literary , etc. words that are written but seldom spoken.

3. THE CREATION OF AUTONOMOUS TEXT

3.1 Introduction: the nature of autonomous text

3.1.1 Introduction

It was argued in chapter 2 that, notwithstanding their claims to the contrary, modern linguistics and theories of language learning have been closely conditioned by writing (specifically alphabetic writing). In the Aristotelian tradition, the ideal written symbol was assumed to be a transparent representation of speech, so that any divergence could only result from the shortcomings of the writing system itself. The same belief has also characterized the standard philosophical view of the relation of language to its objects. Undistorted representation of the world in human understanding will only be possible if the language used is transparent, and so isomorphic with extralinguistic reality. Where understanding fails, the problem will show up the inadequacy of the particular form of language used. Great effort will therefore be needed, in the interests of rational thought, to regulate the use of language, to keep it up to its representational function. Ideally, it will map reality, its words standing for simple entities or concepts whose combination will generate true propositions. As such, it will be 'autonomous', in that it will not depend on a specific interpretation, and so will be removed from accidents of voice, time or occasion of utterance. The ideal state of such a language will clearly be written, since these properties, and the authority they confer, belong specifically to its manifestation in text (cf §2.4.2.4; Kittay 1991).

In this chapter and the following it will be argued, along lines mapped in part by Taylor (1985a) and Harris (for example, 1980), that the development of this notion of text in the western tradition has been instrumental in establishing and naturalizing an autonomous conception both of the world and its contents, and of individual mental functioning. The object will be (1) to examine historically how the modern genre of neutral written discourse first developed in the seventeenth century; and (2) to indicate how this discourse and its properties have since been internalized to form the medium for a (universal) mental code, or *lingua mentis*. This simultaneously embodies and confirms the autonomous picture of cognitive processes, and, by extension, of the individual human agent that is now taken for granted in modern thought, particularly in linguistics and cognitive psychology. Thus it will be argued that this picture has its basis in a rhetorical tradition, to which, in vital respects, it remains heir, and which, as such, calls into question the basis of the linguistic and cognitive assumptions on which current theories of reading and learning rely.

In the present chapter, these ideas are first developed in relation to Olson's account of the evolution of 'essayist prose', in which the autonomous textual ideal first became explicit. With respect to the distinction drawn in the Introduction (§1.3.2), Olson depicts this from a 'propositional' point of view, that is, in terms to which its seventeenth century proponents would largely assent, as a natural

process whose end was a prose form suited to the emergence of modern science. In contrast, it is argued here that its origins are, in fact, 'rhetorical', that is, motivated by specific historical circumstances. The creation of autonomous text was central to the means by which the natural philosophers claimed legitimacy for their new approach to the world, which they bequeathed to modern science, and differentiated it from that of the schoolmen, whose intellectual concerns it rendered absurd and trivial, "cobwebs of learning, admirable for the fineness of thread and work, but of no substance or profit" (Bacon 1605/1861:40). In other words, according to this view, essayist prose was not simply a linguistic solution to a pre-existing problem (the need for objective representation); instead, definition and vigorous assertion of the new genre were key aspects of the redrawing of conceptual boundaries by which the new mode of thought was articulated. It was the means by which the notion of objectivity, and, in this sense, the scientific revolution itself, was constituted, and which, in turn, it projected back on to the facts it was used to represent.

It is argued that subsequent refinement of the ideals of autonomous text in specialized forms, such as the propositional calculus and, ultimately, the cognitivists' internal 'language of thought', should also be viewed in this light, with implications for theories of language knowledge, comprehension and learning which derive from them, including those mental processes now said to be involved in reading, comprehending and learning from texts.

3.1.2 An ideal language

The ideal scientific language would be a language of pure representation, independent of its human users, wholly determined by the nature of the facts to be represented, without expressive residue, and embodied in some universally understood symbolic medium (cf Taylor 1985a:267). Belief in the possibility of such a language has exercised a powerful influence on the western tradition: discussion of science, learning, communication and understanding, as well as of moral and aesthetic questions, has most frequently been premised on a linguistic model of this kind. Even though no naturally occurring human language approaches this ideal, its authority has helped to confirm a plain (non-figurative, denotative, information-bearing) style as the criterion of objectivity for scientific prose, to the extent that 'plainness' has come to be regarded not as a property of language but of the facts represented. There has been a constant tendency to assimilate this stylistic or rhetorical formulation to the ideal of a purely designative medium of representation. Such prose may then be held to achieve genuine correspondence to the states of affairs it depicts, and hence autonomy, its features naturally given, rather than an outcome of locatable circumstances or processes. Where such assimilation occurs, there will be a strong temptation to portray the history of writing and of literate practices as somehow necessary, a teleology in which written forms advance towards 'objectivity', disembeddedness, autonomy, in step with the progress of scientific knowledge towards truth.

In the modern world, such a temptation may be hard to resist, since autonomous modes of explanation are woven into the texture of modern thought, not only in scientific contexts, but as a main strand in the moral and political notion of what Taylor calls "disengaged modern consciousness". As he notes:

> The liberation through objectification wrought by the cosmological revolution of the seventeenth century has become to many the model of the agent's relation to the world, and hence sets the very definition of what it is to be an agent.
>
> (Taylor op. cit.:5)

Moreover, since this is the case, alternative views cannot challenge the autonomous picture on an equal footing: it is a vital part of established, authoritative forms of thought and action, able to deploy its own neutrality as a warrant of its freedom from any biased or polemical purpose.

Yet if, as will be argued, it is necessary to relate literate practices to the contexts in which they arise, it will also be necessary to see their historical transformations as motivated by specific intellectual, cultural, religious (etc.) pressures, and the consequent rise of interpretative communities and privileged genres and practices within them (cf Stock 1983). Once the relation to external factors is admitted, it becomes clear that to see the history of writing as a slow march towards the emergence of neutral scientific prose is simply to accept the tradition's own account of itself and to take its prestige at face value.

3.1.3 The literal versus the figurative

The concept of text that first appeared in the Baconian revolution of the seventeenth century was not simply a mirror of its empirical contents, but developed, as did the revolution itself, in a context shaped by political and religious debate. The very possibility of, on the one hand, free empirical pursuit of the independently given truths of nature and, on the other, of the Protestant quest to establish the literal truth of Biblical text, were a consequence and also a manifestation of the changing attitude towards intellectual and religious authority precipitated by the Reformation. To succeed, both required the drawing (strictly, the redrawing) and enforcing of a conceptual boundary between 'literal' and 'figurative' representation that was not itself a property of nature, but a deliberate rhetorical move. It is one that has subsequently been repeated and institutionalized in a succession of related distinctions (between, for example, sense and force, sentence meaning and speaker's meaning, propositional content and verbal form, etc.), by which the possibility of acontextual signification has been established. All such distinctions presuppose the existence of an absolute realm of facts prior to any interpretation. It is this which autonomous text will transcribe, the difficulty being to create a distortion-free medium in which it can do so. This then has been the over-riding linguistic/textual concern of the empiricist tradition.

The drawing of a literal/figurative boundary does not leave the conceptual landscape otherwise unchanged, but determines the parameters of subsequent discussion. One side of it (the literal) becomes the primary, privileged category, defining the other (figurative) as deviant. It now becomes important to know on which side a given text lies, when before the question would have been meaningless. This point is made by Morse in her discussion of the writing of history in the Middle Ages: the temptation "to rescue some medieval historian for empiricism" - that is, to take his account to be 'literally true' in the modern sense - must be resisted, she argues: "the idea that they could distinguish (in order to reject) embellishment is belied by their practice" (Morse 1991:88); instead, they adopt various, and, from the modern point of view, conflicting criteria: literary, rhetorical, eschatological, etc., without any sense of incongruity (ibid.:95). The same applies to the idea of 'distortion', which presupposes a modern norm of objectivity (cf Morse op. cit.:83; also Finley 1990). It is not, in other words, that a literal/figurative distinction (any more than one between fact and fiction) had always 'really' existed, waiting for empiricism to discover it. To assume this is to fall into anachronism, imposing modern distinctions where none were drawn.

It will be clear, moreover, that there is no simple way to translate the concepts that were commonly debated before the drawing of the distinction into those in circulation after it: the two conceptual worlds were differently articulated, cut along different lines, as Foucault, in particular, has argued (cf, for example, Foucault 1970, 1972). There will thus be no straightforward means of comparing readings across it. This is a problem with Olson's account of the history of reading (Olson 1994), which, despite references to the significance of historical processes (for example, op. cit.:41), and recognition that the concept of literal meaning emerged historically (ibid.:155; cf below), tends to project the modern notion of the literal back on to classical and medieval writers. This makes it seem as if they inhabited the same epistemological and semantic universe as we do, but assigned different truth values to its propositions, and, presumably because they were less scientific than us, cultivated metaphor at the expense of surface meaning. It is also a problem with 'charitable' reading, designed to extract whatever 'truth' can be found in such texts. As Hacking points out, the key issue is not simply one of truth, but rather of availability to be 'true or false': the drawing of a conceptual boundary causes a range of propositions to become available to be considered true or false concerning which there was previously no question at all (Hacking 1982:60; cf §4.4.3).

Taylor makes a similar point with respect to cross-cultural comparisons (Taylor op. cit.:288). To suppose, for example, that tribesmen who assert that they are parakeets (cf Geertz 1973:121) must be using this term 'metaphorically' will only be justified if they too independently recognize a literal meaning as a ground for the metaphorical usage. The fact that this point needs to be made at all indicates the extent to which our culture has taken the autonomous, representative function of language to be primary, and turned it from a norm into a theory about the nature of language and

meaning (cf Taylor ibid.:291). This may be attributable to its basis in autonomous text, and the types of schooling and interpretative practices associated with it (cf Bruner and Olson 1986:11ff).

The wider philosophical implications of the issues raised here are beyond the scope of this discussion; but the basic point is necessary if literate practices are to be understood and compared across contexts. The historical aspects of Olson's theory are evaluated in greater detail in the following sections.

3.2 The history of reading: Olson's thesis

> The history of literacy is in part learning to construct documents which could serve as embodiments of and arbiters of meaning.
>
> (Olson 1994:187)

3.2.1 Reading and cognitive development

Olson and various collaborators have been influential in advancing a 'technological' view of literacy in education and psychology. To a greater extent than the classical and literary scholars Havelock and Ong, whose views are discussed in chapter 6, they have sought to specify exactly how literacy brings about cognitive change in societies and individuals (cf Olson 1994:38). This makes their project significant, not least because of their insistence, as psychologists, in the face of both Piagetian and cognitivist orthodoxy, that features of the (historically changing) cultural and symbolic environment play a constitutive role in cognitive development. Their central supposition is that "there is a form of metaprocessing that involves the constant reorganization of what we know into the categories provided by symbol systems," (Bruner and Olson 1986:5-6); in particular, that literacy, promoted by formal schooling (therefore socially instituted) supplies the primary means by which language is objectified and brought to consciousness (see, for example, Olson 1991b). In the tension between awareness of the world and awareness of the language used to represent it, as between an author's intention and the text he produces, a new sphere of interpretative discourse is opened up, calling forth a more complex vocabulary of mental states and speech acts to articulate it (Olson and Astington 1990:712f; Olson 1994:108ff,266). The concept of mind is itself perhaps simply a consequence of the set of mental concepts to which the interpretative process gives rise. In this sense, "it is at least plausible that the discovery of the mind was part of the legacy of writing" (Olson 1994:242). Although it may be inappropriate to talk of the 'history' of cognitive processes themselves, that is, as naturally evolved features of the brain's operation, it will nevertheless be quite reasonable, indeed essential, to trace the history of "symbol-based thought"; that is, of the technologies by which cognitive activities are mediated (ibid.:23).

Olson's emphasis on historical perspective has helped to move discussion beyond the naive expectation that 'literacy', however minimally defined, could, by virtue of some intrinsic property, produce 'instant', potentially measurable cognitive change (cf Goody's criticism of Scribner and Cole below, §6.2.6), and focus instead on the consequences of texts and their associated literate practices with reference to socially established norms. In so doing, it greatly increases the sensitivity of the technological thesis. But the form of his argument remains uncomfortably deterministic, ever prone to allow the simplicity of its overall scheme to overshadow the diversity of historical and cultural detail. In attempting to combine an evolutionary picture of the western literate tradition, in the manner of McLuhan, with his own detailed psychological research, Olson has found it increasingly necessary to write an adequate historical account of that tradition, and it is here especially that problems are encountered. Although he shares none of McLuhan's disregard for historical analysis, it is unfortunately true of Olson's, as of other 'technological' arguments, that the boldness of its central thesis leads him to take a schematic view of large scale sociohistorical phenomena that tends to undermine his attempt to represent literate practices accurately on a small scale. His most recent attempt to chart the history of reading and rise of autonomous text suffers particularly from the contradictions to which this gives rise.

3.2.2 The framework of Olson's theory: utterance and text

Olson's scheme, advanced twenty years ago (Olson 1977) and recently elaborated (Olson 1994), rests on a distinction between 'utterance' and 'text', a particular form of the oral/literate divide. Three basic principles distinguish utterance from text: they relate to (i) meaning; (ii) truth; and (iii) function. (i) The criterion for a successful utterance is understanding on the part of the listener; if this is achieved, "it does not really matter what the speaker says" (1977:277) (by which Olson presumably means what actual words the speaker chooses). For text, by contrast, the criterion for success is purely formal; all that matters is the explicit statement of premises and correct drawing of inferences: "if the text is formally adequate, and the reader fails to understand, that is the reader's problem" (ibid.). In this case, clearly, precise formulation will have central importance. (ii) Utterance bases claims to truth on an appeal to 'truth as wisdom', received truth as expressed by elders, etc.; whereas text appeals to 'truth as correspondence', i.e. to (objective) observation. (iii) With regard to function, utterance is primarily interpersonal and rhetorical; text is ideational and logical (ibid.:277-8).

These features are ones often held to distinguish written from spoken language, though alone they are not sufficient to do so: as discussed in Appendix 1, a great many dimensions have a bearing on this contrast, such that no one set of formal or functional criteria can be judged decisive. Indeed, Olson acknowledges that not all text is autonomous, and not all utterance is context-bound (Street 1984:42, citing an unpublished source); but such adjustments leave the basic model unaffected.

However, its purpose is not simply to characterize a difference between the kinds of discourse typical of each medium. In Olson's analysis, these features are taken to distinguish the modes of thought characteristic of their users: the former, universal, spoken and contextually dependent, typifies oral society and pre-school children; the latter, restricted, written and autonomous, is promoted by schooling and typifies advanced rational society and adults. Both socio-historical and individual development can therefore be understood as a progression from 'utterance' towards 'text', as a result of which meaning (and so also knowledge) are externalized, no longer 'in the mind' alone, but principally 'on paper'.

> There is a transition from utterance to text both culturally and developmentally ... this transition can be described as one of increasing explicitness, with language increasingly able to stand as an unambiguous or autonomous representation of meaning.
>
> (Olson 1977:258)

Individual development is a matter of learning to control the conventions for putting more and more meaning into verbal form (1977:261). Historically, what Olson calls the 'essayist technique' developed by British writers in the seventeenth century scientific revolution represents the culmination of attempts to put meaning 'in the text' (ibid.:258; cf also Olson 1991a). Since the properties of this specifically English literary genre most nearly approximate to those of 'autonomous text' itself, its emergence forms the goal towards which Olson steers his historical account.

In his scheme, writing is seen as evolving by slow degrees, by way of the Greek invention of the alphabet, from a simple mnemonic device, a record of prior utterance, into a full, autonomous representation of meaning. Essayist prose, in which, Olson argues, written discourse achieved the condition of 'text' in this latter sense, is objective and analytical, preserving and transmitting its meaning without reference to individual speakers. In particular, it has elaborated graphical and lexical means to indicate not just the words of the original utterance but also how they should be interpreted (1994:180ff), and requires the adoption of a mode of reading that attends to the logical relations within it, the composition of its propositions, and the closeness of its correspondence to everyday experience. Such reading habits have tended to specialize human cognitive functions in the direction of logical analysis: "It is this analytic, combinatorial mode that is the overspill of literate usage into the thought processes" (Bruner and Olson op. cit.:9). This explains, for Olson, the principal aspects of western culture, its characteristic uses of language and modes of thought: in short, its particular (written) language 'bias' (Olson 1977:278), differentiating it from non-western 'primitive' thought described by anthropologists such as Gellner (for example, 1973) (Bruner and Olson op. cit.:13; cf below).

In order to evaluate this account, it will be important to distinguish between (a) a framework constructed as an analytical device, and (b) a hypothesis offered to account for the actual processes of

historical or psychological evolution. Regarded as (a), Olson's scheme helpfully brings disparate textual and cognitive phenomena within a single structural analysis. But, as often with such approaches, the analysis is simultaneously treated as if it were (b), a hypothesis about actual processes, particularly since the 1994 book seeks to fill in the details of the transition between utterance and text, both for western culture as a whole and for children growing up to be its literate members. And, from this point of view, it raises serious difficulties. In particular, the utterance/text distinction (now strictly a continuum) presupposes just the state of affairs it is meant to explain: that is, the existence of a Great Divide on both individual and cultural planes, defined by the presence or absence of the modes of thought associated with autonomous text. It offers no independent justification for drawing the distinction in these terms, or for ascribing just these modes of thought to the human beings on either side of it. In the absence of adequate detail, there is therefore a strong sense that the simplifying scheme is being imposed on a more complex cultural and historical picture with too little attention to its contextual relevance or intelligibility.

It is thus not so much a basis for a historical analysis of literate practices as for a self-fulfilling teleology with the properties of autonomous text (as realised in the textual decorum of the English essay) as its necessary end. Yet if reading has a history it can hardly be written without reference to the social, political, and intellectual, etc. conditions that bring about transitions between modes of thought, and their related textual and generic manifestations: that is, its phenomena require to be independently explained, rather than impelled by their own developmental logic.

3.2.3 Literal meaning

> A history of the notion of literal meaning is an important part of the history of reading.
>
> (Olson 1994:155)

The teleology in which utterance becomes text implies another, in which reading progresses from the relativity of competing interpretations, towards the objectivity of a single literal meaning. This is the heart of Olson's account: it is, he argues, a consequence of the nature of writing itself, which creates the initial distinction between what is fixed, or given, and what is added by the reader, or interpreted (1991a:151). One effect of the invention of alphabetic writing, "as Goody and Watt ... have shown," is that "it permitted a differentiation of myth and history with a new regard for literal truth" (Olson 1977:267; cf discussion in §3.3 below). It meant that readers could assign the "correct interpretation" to a text even without prior expectations about what it would say; this represented "a significant step towards making meaning explicit in the conventionalized linguistic system" (ibid.:266). The invention of print increased explicitness further, "minimizing the possible interpretations of statements. A sentence was written to have only one meaning." (1977:268; emphasis added). Although Olson has subsequently acknowledged that this is an oversimplification, he still maintains

that 'how a text is to be taken' comes increasingly to be recoverable from the text itself, and so, in this sense, is objectively 'in' it (cf 1994:158-9): for every such text there is a 'correct' (literal) reading in relation to which all others, however fruitful must be judged "misreadings" (ibid.:193).[1]

The question then is how is literal meaning to be established? Not, as the seventeenth century thought, by reference to the ultimate truth of things; Olson points out that its emergence depended on the evolution of the specific form of textual autonomy he describes and so of the concomitant means for writing and interpreting it (1994:144). However, he presents the history of literacy as if the wish to fix meaning initiated a deliberate and continuous project that occupied the best minds for "the better part of a millennium" (ibid.), from Augustine to Aquinas, Luther and Bacon, leading at last to the unique invention of modern prose. He points out breakthroughs on the way: it was Aquinas, for example, whose "dazzling" solution to the problem of scriptural interpretation identified literal meaning as what the texts' human authors intended by their words, as opposed to the spiritual meaning expressed in the events they narrated. By this means, the former could become a valid object of analysis (1994:152-3). The goal of such reading should therefore be to establish what the original author meant. In turn, the goal of writing should be to enable authorial intentions to be made explicit, so that, gradually, technical means were developed to bring the different aspects of meaning conveyable in speech under conscious written control. In the sixteenth and seventeenth centuries, a new range of speech act and mental state verbs were introduced into English from Latin, by which a writer could indicate the illocutionary force to be attached to a given propositional content (ibid.:189ff;108f; cf above). The result was a 'scientific', non-metaphorical prose, "a kind of prose transparent to its object" (1994:194), in which what is written could be understood as a full and explicit representation of its intended meaning; and a mode of reading which accepted written statements as 'literally' true to the facts (ibid.:191-3). The non-literal, the realm of interpretation that included whatever fell outside these canonical forms, then became identified with "the new subjectivity", in particular hypothesis, conjecture and the sphere of mental activity (1991a:155f).

3.2.4 Discussion

In short, for Olson, "the history of reading is largely the history of attempting to cope with what writing does not represent" (1994:145; cf 93); "the struggle to recover what was lost in simple transcription" (ibid:111); to compensate for the absence of the speaking voice that could always point to the intended meaning of an utterance. This emphasis on 'recovery' implies that the function of writing, however sophisticated, is, at bottom, the representation of speech and its context, that is, essentially the phonocentric position questioned in chapter 2; indeed, in Olson's view, "writing, though important, is always secondary" (1994:8). By depicting the goal of writing as the increasingly precise emulation of what face-to-face speakers do he fails to do justice to its real 'autonomy', the fact that (as previously argued) written language may constitute a functionally independent language

system (cf also Nystrand 1987:211). This is perhaps a false perspective created by the yoking together of socio-historical and psychological dimensions: Olson's work with young learners, for whom the distinction between propositional meaning and intended meaning, etc. is initially difficult (cf Torrance and Olson 1987), provides no reliable guide to the history of literate practices or their functions; or (still less) the development of the western tradition to which they belong.

Moreover, Olson represents the purpose of text as the communication of meaning in a monological, individualist sense: that is, as the individual reader's retrieval of the meaning that the original writer put in. Yet these notions of 'reader', 'writer' and 'meaning' are modern ones which it would be anachronistic to apply to the ancient or medieval worlds. Individual authorship, authorial intention, and so on, have their own histories. In a tradition as narrowly based on Greek models and Biblical texts as the one Olson describes, in which, as Steiner puts it, "most books are about previous books" (Steiner 1972:190), intertextuality itself becomes a primary mode of meaning; this is, Steiner suggests, one sign of its maturity. Indeed, in Bakhtin's view, "the history of medieval literature and its Latin literature in particular 'is the history of the appropriation of, re-working and imitation of someone else's property'" (Bakhtin 1981:69; quoting Lehmann 1922).[2] Its language becomes "a tissue of implicit allusion, glancing reference to metaphors and quotation from elsewhere in the canon, and similar plays on words" (Grafton and Jardine 1986:11) which readers were trained to recognize and imitate. Since this canon was (and long remained) highly institutionalized, with its historical origins obscured under layers of commentary, translation, interpolation, etc., the original author and his intentions could have had little relevance, unless as a rhetorical device, an invention to serve some current interpretative or stylistic end. In Eisenstein's view, the modern concept of authorship, implying individual property rights, and individual responsibility for meanings, was unknown before printing (Eisenstein 1979:122).

Olson's history takes no account of such external motivation in establishing meanings, or of the role played by the authority of specific genres and the textual communities to which they belong in fixing canonical interpretations for a given period or readership. For example, from Morse's analysis of medieval history writing (cf above) it is clear that it belonged to a genre with its own rhetorical expectations, in which no discernible value was placed on factual accuracy in a modern, supposedly 'literate' sense: imitation of classical models, the invention of events, characters and appropriate speeches might all be compatible with the acceptance of an account as authentic (Morse op. cit.:ch.2). When every aspect of a text was 'artful', so that even an apparently spontaneous comment was likely to belong to an established rhetorical *topos*, what non-rhetorical sense could attach to the notion of the individual author's intentions? (cf Morse op cit.:94). The text's meaning was inseparable from its genre, and related to writing and reading purposes that were not personal but public and highly formalized.[3]

In relation to the scriptures, it is true, scholastic readers sought to justify new, more rigorous methods of analysis, to which end they distinguished between the words of the human *auctores*, and the source of their *auctoritas* in God (Minnis 1984:75ff). A space was thus opened in which it became possible to treat Biblical text as a composition of diverse voices without compromising the integrity of its divine inspiration; and "henceforth each and every inspired writer would be given credit for his personal literary contribution" (ibid.:84). But, as Minnis's discussion makes clear, this distinction originated in, and was circumscribed by, the formal Aristotelian distinction between 'efficient' and 'final' causes. In other words, it did not imply a new valuation of the author as individual, or an early step towards the privatization of meaning. It was essentially a rhetorical strategy, 'fundamentalist' in Carruthers' terms, to curtail the 'textualist' excesses of mystical readings by marking off a human sphere in which interpretation could focus on the 'literal' features of the text itself (cf Carruthers 1990:12; Minnis op. cit.:86). As such, it was central to the means by which scholasticism achieved self-definition (a view to be developed shortly). In contrast, the identification of meaning with the author's own communicative intention required more than such strategic boundary drawing, or the development of appropriate textual means to make it explicit: it required the invention of the author as an individual (indeed, also of the reader). For, as Culler observes, "the individuality of the individual ... is itself a complex cultural construct, a heterogeneous product rather than a unified cause" (Culler 1981:52). One facet of its construction in the western tradition is revealed in Bakhtin's account of the emergence of the genres of biography and autobiography in the ancient world (Bakhtin op. cit.:130ff). Gough reminds us that it also has political connotations (Gough 1968a:84f).

The problems in Olson's account arise from his concentrating on the internal characteristics of texts to the exclusion of their externally defined functions. Yet, as Nystrand points out, without these even the notion of 'explicitness' cannot be properly understood. The production of a written text requires sophisticated awareness of what is and what is not shared knowledge:

> A text is explicit not because it says everything all by itself but rather because it strikes a careful balance between what needs to be said and what may be assumed. The writer's problem is not just being explicit; the writer's problem is knowing what to be explicit about.
>
> (Nystrand 1987:197)

This balance is part of the "contract" that "underlies all communication from the briefest note to the longest treatise" (ibid.:205), which establishes that a text (indeed all discourse) is shaped not by the speaker's or writer's meaning or purpose in isolation, but by "the joint expectations of the conversants that they should understand one another" (ibid.:209); it is thus a matter of social interaction. And, as suggested, these expectations will take historically variable generic and institutional forms. In this respect, those associated with the English essay are no exception.

3.2.5 Conclusion

Despite various qualifications, Olson's history of reading is rooted in an Aristotelian view in which representation is the true end of symbolic activity, and progress is synonymous with closer approximation to truth (cf below).

> Language is used for representing the world; it makes it possible to reflect on, to become aware of, the world. Writing is used for representing language; it makes it possible to reflect on, to become aware of, language.
>
> (Olson 1991b:265)

While he accepts that there were periods in which figurative reading mattered more than the literal (for example, in the Middle Ages, and perhaps today), the figurative is still, ultimately, a 'misreading' or distortion. Yet if, as he concedes, we now know that 'literal representation' is in fact illusory, merely constituted by forms of discourse (1994:197), it is surely necessary for a historical account to ask how it was (rhetorically) constructed in any given period, why it was sought and how it affected different genres of writing. The answers will involve a spectrum of historically located religious, intellectual, political and literary factors, hardly reducible to the idea of a natural, or inevitable progress towards literal meaning. The following sections suggest how such external considerations shaped the construction of autonomous text in the seventeenth century.

3.3 The rise of the literal

> If I ask about the world, you can offer to tell me how it is under one or more frames of reference; but if I insist that you tell me how it is apart from all frames, what can you say? We are confined to ways of describing whatever is described. Our universe, so to speak, consists of these ways rather than of a world or worlds.
>
> (Goodman 1978:2-3)

3.3.1 The designative theory of meaning

Taylor draws a basic distinction between 'designative' and 'expressive' theories of meaning (Taylor 1985a:ch9). This turns on the attitude adopted by the two classes of theory to the role of the human subject: strictly excluded by the former, but central to the latter. Subject-relative theories are, by their nature, inimical to scientific thought, which sets out to frame an account of the world, independent of individual observers (op. cit.:221). In order to do so, empirical science seeks to represent its objects immediately, without passing them through the distorting (expressive) medium of language. Hence its ideal is the transparency of the purely designative code, in which the meaning of a word is fixed by the thing (property, relation, etc.) it designates in the world (Taylor ibid.:218), thus by-passing the human subject. In this case, the world is assumed to consist of discrete, identifiable objects, and designation to be the stable and unproblematic matter of labelling them. Such a code

will be semantically empty, therefore 'invisible', its objectivity determined by the nature of its contents: that is, not a rhetorical property of language, but a natural function of the designative relationship itself. (In this there is a clear parallel with the Aristotelian model of written language discussed in chapter 2.)

'Designative' can be taken to include both 'referential' theories (the meaning of a word is a thing in the world), and 'ideational' theories (the meaning of a word is an idea in the mind; this distinction is discussed by Hacking 1975:19 and 43ff).[4] In fact, the seventeenth century was principally concerned with the latter, since, in the Cartesian/Berkeleyian view, it is the individual's access to his ideas, directly formed by the action of external stimuli on his senses, that justifies his certainty about them. Thus, as Hacking puts it, ideas are the interface between the knowing subject and objective reality (ibid.:52). This being the case, language is hardly an issue in seventeenth and eighteenth century thought, except in a negative sense: ideas, formed by external means, are language-independent (Baker and Hacker 1984:17); but without ideas, 'mere words' are worthless, or (worse) deceitful, paper currency without gold to back it (cf ibid.:20; and §2.2.2 above).[5]

In essence, however, the seventeenth century theory of language was a theory of representation, and its goal was to achieve (literal) correspondence to the facts of the world.[6] Many difficulties, linguistic and philosophical, beset this notion; among the most significant, Putnam notes that no method of representation "has the magical property that there cannot be different representations with the same meaning" (Putnam 1988:21). Moreover, no method of representation intrinsically refers to the thing represented; instead, their association remains contingent and changeable as the culture or the world changes (ibid.:22). Nevertheless, the fact that literal correspondence was established as a necessary condition for scientific discourse explains why the progress of empirical science, from its seventeenth century origins, has been accompanied by a preoccupation with the nature of linguistic signs and their relation to their referents. This included the efforts of John Wilkins and others to set understanding on unassailable foundations by inventing a purely designative written code that would cut out all need for human interpretation (cf below, §3.3.3.1). In an important sense, it can be argued, empirical methodology and the designative theory of meaning effectively defined each other. And to the extent that this is so, it will be necessary, as Olson fails adequately to do, to view them both as aspects of the rhetorical strategy by which the new science sought to establish its claims.

3.3.2 Defining the literal

In an analysis that enables us to appreciate the contextually specific and polemical character of transitions between modes of thought, Geoffrey Lloyd examines the emergence in Greek philosophy of an explicit distinction between literal and metaphorical language, likewise between rational accounts (*logos*) and myth (*muthos*, in a pejorative sense) (Lloyd 1990). It was this, he maintains,

that not only initiated the separation of natural science from poetic imagination, but also laid down the forms of discourse and reasoning appropriate to each. However, as Lloyd makes clear, it did not arise from the nature of the subjects treated. Against the positivist belief that "the history of philosophy as a scientific discipline may be regarded as a single continuous struggle to effect a separation and liberation from myth" (Cassirer, cited in Goody and Watt 1963:43), with its assumption of the superiority of 'the Greek mentality', Lloyd stresses the importance of the deliberate polemic by which certain philosophers, notably Aristotle, sought to validate their new style of enquiry. The distinction between *logos* and *muthos* was "not just an innocent, neutral piece of logical analysis, but a weapon forged to defend territory, repel boarders, put down rivals" (Lloyd op. cit.:23). It is not that science arose in ancient Greece where before only superstition had existed, as a stage in the progress from obscurantism towards truth. Instead, it defined itself by means of a "rhetoric of legitimation" (ibid.:43) which imposed just this distinction, in the service of the new philosophy, on older forms of discourse in which it did not occur. In Lloyd's view, the importance of the Greek development lay in its making available concepts which focused attention more clearly than other, already well-defined types of discourse (riddles, religious texts, etc.) on questions of meaning and the justification of belief, and thus exposed previously secure forms of belief to challenge (ibid.:25-7; cf Hacking's similar views above).

This rhetorical move was repeated in later attempts to (re-) assert Aristotelian principles, by medieval scholasticism and again in the Baconian revolution which supplanted it. As discussed above, scholasticism differentiated itself from the Latin literary tradition by claiming a new concern with the 'literal' sense of Biblical text, as opposed to mystical interpretation. Thereby, according to Auerbach, it "exerted a revolutionary effect on the language" (Auerbach 1965:274). At the heart of its programme was a belief that rational thought required a discourse of "scientific accuracy", stripped of figurative excesses. Auerbach argues that it was this that enabled the achievement of scholastic logic; moreover, the fact that Latin was primarily a written language facilitated its development as a specialized intellectual instrument (ibid.; cf chapter 2). The link between intellectual and rhetorical ends is clear; but, as in the Baconian case, the new movement represented itself as strictly opposed to rhetoric: the "urgent demand for exact, specialized knowledge gave rise to an antirhetorical tendency, which laid claim to intellectual leadership" (ibid.:275). Pursuit of this 'rational' discourse was (again, as later) closely associated with a renewed emphasis on plain forms of religious expression, for which the Augustinian *sermo humilis* served as exemplar (ibid.:ch1, esp.53). Its blending of sublime and lowly elements into a style which "gives an impression of simplicity" (ibid.:32) reflected a conviction that, however crude it might sound to ears tuned to classical aesthetic values, the 'uncouth' surface of the Biblical text was a source of genuine depth. According to Auerbach, this rhetoric came to pervade all forms of Christian literature, and

revitalized the decadent style of the declining Empire (ibid.:53); eventually, with Luther, it was incorporated into German prose style (ibid.:329).

Despite the anti-Aristotelian outlook of its proponents, early modern science also revived Aristotelian concerns, in particular a commitment to empirical observation, rather than textual authority, or, as Bacon put it, a 'discourse of things' rather than a 'discourse of words' (cf Eisenstein 1983:194-5; Slaughter 1982:88-9). In his view, the world was composed of a set of essential elements, an alphabet, which combined to produce the variety of observed forms (Bacon 1605/-1861:144; cf Slaughter op. cit.:95), and which it was therefore the task of the new science to uncover. Science was understood as advancing towards certain knowledge in step with the progress of a self-effacing discourse towards designative transparency. However, Lloyd's analysis helps to show how the construction of objectivity in Baconian discourse, the expulsion of secondary properties, the elimination of subjective interpretation, etc., depended once more on a distinction, polemically drawn and defended, between literal and figurative language (notably, between true representation and distortion), by which earlier symbolic/expressive readings of the world and its signs could be discarded. In Bacon's terms they became 'Idols of the Market Place', that is, errors induced by the power words have over us.[7] The following sections examine these empiricist linguistic concerns in slightly more detail.

3.3.3 The language of literal representation

> We cannot ... approve of any mode of discovery without writing, and when that comes into more general use we may have further hopes.
>
> (Bacon *Novum Organum* 1620:I.§ci)

The seventeenth century search for order, manifested in standardized tables, maps, taxonomies, universal characters, etc., arose in a context of spreading literacy, the reduction of scribal errors and inconsistencies by print (cf Eisenstein 1983:269), and, consequently, a new sense of the written alphabet as clear, uniform and replicable. Nature, to the preceding age written in occult hieroglyphs, was now depicted as a legible assembly of 'alphabetical' elements (cf Hudson 1994:38). At the same time, this introduced a radical disjunction between words and things: as Foucault puts it, with the entry of nature into the scientific order, "the written word ceases to be included among the signs and forms of truth. ... Language has withdrawn from the midst of beings themselves and has entered a period of transparency and neutrality" (Foucault 1970:56). In the new order, the world consisted of a set of identifiable external entities to be signified, and language supplied a set of signifying symbols: what had now become unclear was how they could be securely and uniquely tied together.

The philosophy of language has been dominated by the notion of truth as correspondence to external reality for over two millennia (Putnam 1981:74; 1988:19). A proposition is taken to be the linguistic

representation of a state of affairs in the world, and the signs that compose it to correspond to their objects, independent of particular contexts of utterance, or intentions of speakers (cf Putnam 1981:52). This assumption has led the western tradition to regard language as interposed "like a cushion, between us and the world" (Rorty 1991:81). Its ideal language will resemble an ideally thin cushion, able to translate the thrust of 'reality' as directly as possible:

> It has regretted that the diversity of language games, of interpretive communities, permits us so much variation in the way in which we respond to causal pressures. It would like us to be machines for cranking out true statements in 'direct' response to the pressures of reality upon our organs.
>
> (ibid.)

Perfectly transparent representation would make the connection between the world and statements about it a matter of cause and effect, and turn language users into devices for 'printing' accurate verbal pictures of it. As such, they would be ultimately dispensable, a mechanical adjunct to the process of signification (with important implications for later theories of language and language processing; cf chapter 4).

For a modern philosopher like Rorty, it is possible to concede that there is "brute physical resistance" - lightwaves impinging on the eye, etc. - but there is "no way of transferring this nonlinguistic brutality to facts, to the truth of sentences" (ibid.: original emphasis). For the seventeenth century, the chief obstacle appeared to be the unreliability of the linguistic sign, which arises because natural languages do not achieve (or seek to achieve) transparent mapping between words and things. The result, in Bacon's view, was that the effort to achieve an empirical understanding of nature was constantly jeopardized by careless, ignorant or unscrupulous use of language, which allowed words to control ideas rather than clarify them; the advancement of learning depended above all on reducing the errors this induced. Unfortunately, words had great seductive power. It is "the first distemper of learning, when men study words and not matter. ... For words are but the images of matter; and except they have a life of reason and invention, to fall in love with them is all one as to fall in love with a picture" (Bacon 1605/1861:37; cf Locke's comment below, §3.3.3.3). Moreover, the significations of words in ordinary (spoken) language were not determined by experts but by the mass of ignorant speakers (Bacon 1605/1861:203); according to Bacon, such words "manifestly force the understanding, throw everything into confusion and lead mankind into vain and innumerable controversies" (1620:I.§xliii), so hampering the subsequent efforts of scientists. "Words, as a Tartar's bow, do shoot back upon the understanding of the wisest, and mightily entangle and pervert the judgement" (1605/1861:203).

The unreliability of words on the grounds set forth by Bacon became a commonplace of early modern thought. For Robert Boyle, "real learning" was flatly opposed to the "empty study of words": unless

properly paired with things, words would engender confusion of every kind (Aarsleff 1982:43n3). It was echoed in such influential contexts as the writings of Comenius (cf Slaughter op. cit.:98ff; Knowlson 1975:31ff), and the Port Royal *Logic*, (cf Baker and Hacker 1984:20). Hobbes, though less critical of language than Bacon, likewise emphasised the danger posed by words not firmly anchored to things:

> Seeing then that truth consisteth in the right ordering of names in our affirmations, a man that seeketh precise truth, had need to remember what every name he uses stands for; and to place it accordingly; or else he will find himself entangled in words, as a bird in lime twigs; the more he struggles, the more belimed.
>
> (Hobbes 1651/1973:15; original emphasis)[8]

If, on the other hand, a means could be found of reliably pairing words and things, the atomic constituents of nature (that is, its alphabet) would fix their 'literal' meanings: operations carried out with the ideas for which they stand would lead, by necessity, to true conclusions; this 'discourse of things' would then uniquely determine its own interpretation, independent of all other circumstances. For seventeenth century empiricists, pursuit of this ideal came to define a major research programme. However, they adopted two methods, which, though interrelated, need to be distinguished; for, as argued above, definition of this discourse was the main strategy by which the new empiricism sought to establish its own validity and denigrate that of its predecessors: the empty 'discourse of words' was nowhere more flagrant than in the webs spun out by the schoolmen. Thus (1) philosophers attempted to achieve the designative ideal itself: attention was given to the processes of naming and the construction of definitions; more radically, efforts were made to invent an ideal notation, for which various forms of written symbol served as a model. But (2) at the same time, they laid down the stylistic criteria for a new literalism, with emphasis on self-effacement, the avoidance of rhetorical tropes, etc., by which ordinary written discourse could signal its commitment to empiricism. This second strategy had a much wider influence than the first (the full complexities of which are beyond the scope of the present discussion), and closely associated the scientific with moral and religious attitudes (cf the *sermo humilis* already discussed): a "plain, easy unartificial style, studiously avoiding all ornaments of language" (Plot 1676, quoted in Jones 1930:982) not only demonstrated a scientific concern for matter not words, it was also the textual manifestation of the Protestant, egalitarian (for some, specifically English) virtues of sound work, sincerity and sobriety.[9]

The philosophical and moral/stylistic aspects of empiricist language were never fully dissociated, and remain close.[10] In one sense, the former has always implied the latter: an accurate pairing of words and things must cut discourse to its essentials, leaving no place for what must then be judged mere embellishment. More importantly, in the assimilation of the designative ideal of transparency to the rhetorical ideal of self-effacement they became mutually reinforcing. By its very austerity, 'essayist prose' could be taken to confirm the moral and epistemic finality of its own representations, hence

also its unique status, and that of the empiricist mode of thought it embodied. The following sections briefly consider each ideal in turn.

3.3.3.1 (1) The alphabet in nature

In any dispute, Bacon argued, it was necessary to "imitate the wisdom of the mathematicians" and establish clear definitions at the outset (Bacon 1605/1861:203). This process would be more efficient if ordinary language were replaced by a 'real' character that cut the world at its proper joints (discoverable only by empirical investigation). Chinese ideographs were widely thought to offer a model for the conceptually motivated, philosophically pure notation of ideas (Knowlson op. cit.:25; cf Derrida 1976:80); interest was also taken in hieroglyphics and other mnemonic systems (Yates 1966:378; also Knowlson op. cit.:87). If ideographs enabled communication between speakers of different oriental languages, the basis of their intelligibility must be an immediate, language-independent connection with their external referents (Bacon 1605/1861:207; cf Bloch 1989:31). In such a language there would be a vast number of signs ("as many ... as radical words", Bacon noted, ibid.), but they would by-pass speech. To achieve the correct pairing of signs and referents, however, extensive research would be needed to determine the set of atomic entities in nature to which unique names properly attach, and from which all others could be combined (Slaughter ibid.:126). But if this could be done, the formal symbolism would enable definitions in which the relations of constituent concepts could be made mathematically exact and explicit, reducing errors in reasoning and so both promoting genuine learning, and freeing time for substantive research. Knowlson lists 65 attempts in England and France during the seventeenth and eighteenth centuries to establish such a character (op. cit.: Appendix B), of which the most elaborate was Wilkins' project, under the aegis of the Royal Society (cf Slaughter op. cit., especially ch8; Aarsleff 1982; Knowlson op. cit.:98ff).

The philosophical project overlapped with several more strictly linguistic ones: the need to create a precise and systematic language of taxonomy; development of an 'auxiliary' language to replace Latin as a medium for international communication among scientists, to which the rise of European vernaculars was beginning to create barriers; and language reform to rid it of the kind of 'defects' that were thought to make English difficult to learn (cf the aims of Wallis's English grammar; chapter 2 note 11). But these aims would be based on existing languages (Slaughter op. cit.:126); it was unlikely that a philosophical system, if adequate, could hope to meet their practical objectives. For one thing, the number of symbols would be an obstacle to learning; moreover, as a purely written language, it would not fulfil the range of functions necessary for normal communication (although cf Hudson 1994:46).

The empiricist account of the world was, in effect, motivated by, and depended on, the quest for its proper notation; the objective was to reveal the characters of the 'alphabet in nature' which combined to produce all the world's legible forms. Universal language builders "were revealing the order of

reality which was transcribed in the very combinations of its elements" (Knowlson op. cit.:96); Comenius predicted that their work would lead to the "discovery not only of a language, but of thought, and, what is more, of the truths of things themselves at the same time" (quoted in Knowlson, ibid.). This represented a crucial step in the naturalization of the belief that thought is symbolically constituted, and that its syntax mirrors the organization of reality; that, moreover, in this key sense, its symbols are written, and the world, represented in thought, is itself the pattern for truly autonomous text. Mental activity, construed as operations with strings of such symbols, would then be capable of running in any human mind, or, as later developments would make clear, as the programme of a language machine.

No less for the scriptures than for nature, this ultimate writing was hoped to 'repair the ruins of Babel' (cf Aarsleff op. cit.:260), and retrieve that primal state, founding myth of the designative tradition, in which Adam had given things their true names; thus to strip away the layers of interpretation down to the truth of God's text. The finality of this reading would rescue us from otherwise bottomless controversy and guarantee the undistorted representation of the divine will (cf Cope and Jones 1959:xxxi-ii).[11] But the definition of the literal could not wait for an inquiry into natural forms, or the invention of a real character. The need for the new science to prove its superiority over the hair-splitting of academic arguments demanded polemical enforcement of its truth over their rhetoric (we recall the similar methods used by scholasticism earlier); which, in practice, was to be achieved by stylistic means.

3.3.3.2 (2) Words that speak works

Both the stylistic objectives of scientific discourse and their role as weapon are implicit in Bacon's scorn for men who hunt

> more after the choiceness of phrase, and the round and clean composition of the sentence, and the sweet falling of the clauses, and the varying and illustration of their works with tropes and figures, than after the weight of matter, worth of subject, soundness of argument, life of invention or depth of judgement.
>
> (Bacon 1605/1861:36)

Yet, as Bacon's own prose demonstrates, the alternative was not, in fact, a style without tropes, but the deliberate construction of rhetorical decorum, a 'simplicity' that would announce its self-restraint, its common sense, and mark embellishment as superfluous. This was as much a moral as a stylistic matter.

The Royal Society incorporated the Baconian tenets into its statutes, declaring: "In all Reports of Experiments ..., the matter of fact shall be barely stated, without any prefaces, apologies, or rhetorical flourishes" (1663; quoted in Jones 1930:985); and a classic statement of this empiricist

approach to language is in Thomas Sprat's history of that institution (Sprat 1667/1959). Like other writers whose aim was less philosophical than stylistic, Sprat places greater emphasis than Bacon on the avoidance of figurative language,[12] noting that the Society's fellows "have indeavor'd to separate the knowledge of Nature, from the colours of Rhetorick, the devices of Fancy, or the delightful deceit of Fables" (op. cit.:62). But in a much-quoted passage he characterizes the new scientists and their science by their prose style, which is taken, above all, to embody a particular kind of moral demeanour, praising the deliberate plainness they cultivated not only for being the most transparent medium in which to report empirical facts, but, significantly, for restoring the (lost) original virtue of the English language. In place of decadent (Latinate) "amplifications, digressions, and swellings of style", their language recalled the (Anglo-Saxon)

> primitive purity, and shortness, when men deliver'd so many things, almost in an equal number of words. ... A close, naked natural way of speaking; positive expressions; clear senses; a native easiness: bringing all things as near the Mathematical plainness, as they can.
>
> (Sprat 1667/1959:113; original emphasis)

Sprat's own rhetoric, with a deft allusion to the Adamic language, claims finality for the fellows' writing above all by invoking the Puritan virtue of plain (English) dress against ungodly (foreign) display (cf Cope and Jones: op. cit.:xxxi; Yates 1966:385; cf below).[13]

The prestige of this humble stylistic norm, at least the moral and political advantage of being seen to extol it, was clear even to a high Anglican like Samuel Parker, who, apparently insensible of the irony, clothed his own long denunciation of metaphor ("wanton and luxuriant fancies climbing up into the Bed of Reason ..." that "impregnate the mind with nothing but ayerie and subventaneous phantasmes") in the same "spangled empty words" he claimed to reject (Parker 1666; quoted in Lakoff and Johnson 1980:191; cf Jones op. cit.:1001n44). In stark contrast, Locke's prose is a model of anti-rhetorical propriety. He devotes Book III of the *Essay Concerning Human Understanding* to the problems created by words, noting, in Baconian manner, that "like the medium through which visible objects pass, their obscurity and disorder does not seldom cast a mist before our eyes and impose on our understandings" (1690/1975:488); and again denouncing rhetoric, "that powerful instrument of error and deceit", along with figurative applications of language:

> All the art of rhetoric, besides order and clearness, all the artificial and figurative application of words eloquence hath invented, are for nothing else but to insinuate wrong ideas, and move the passions, and thereby mislead the judgment, and so indeed are perfect cheat.
>
> (ibid.:508)

However, Locke's plainness is no less consciously constructed than Parker's excess, since his language can never do more than evoke transparency by metaphorical means (cf de Man 1979). But, unlike Parker's, Locke's ideas were developed in a prose medium in which thought and style were at once mutually defining and mutually reinforcing. By the end of the seventeenth century, the autonomous essayist genre and the rational epistemology it had helped into being were well-established, and the figurative play of fancies had been effectively cordoned off from the space where science now took on the masculine work of making sense in the conviction that sense was really there to be made (cf Fish 1972:381).

3.3.3.3 Language and the national temper

In 1940, C. K. Ogden wrote:

> Everywhere science and commonsense are working together for the development of an island language from which journeys may be taken with profit into that mist of words of whose dangers education is at last becoming conscious.
>
> (Ogden 1940:117)

He was referring to the solid ground of Basic English, with its clarity in framing ideas; but the wartime image of a beleaguered island of common sense in a fog of manipulative meanings serves to capture a particularly English attitude to language (cf the Derrida case, mentioned above). For the English, Harris argues, it is a pervasive belief that the aim of responsible discourse should be to achieve the closest possible correspondence to facts: this 'doctrine of plain representation' remains, he believes, "one of the most popular pieces of linguistic folklore of modern times" (Harris 1984:17).

As is clear from its injunction to 'call a spade a spade', the virtues of plain expression and clear thought are typically associated with people whose language is shaped by practical rather than intellectual ends. Like Wordsworth, whose Cumbrian peasants speak a "plainer and more emphatic language ... a more permanent and a far more philosophical language, than that which is sometimes substituted for it by poets" (Wordsworth 1802/1973:596), Sprat expresses a preference for the language of "Artizans, Countrymen, and Merchants, before that, of Wits, or Scholars" (op. cit.:113), and goes on to suggest that this is a quality that distinguishes the English temperament:

> If there can be a true character given of the Universal Temper of any Nation under Heaven: then certainly this must be ascrib'd to our Countrymen: that they have commonly an unaffected sincerity; that they love to deliver their minds with a sound simplicity; that they have the middle qualities, between the reserv'd subtle southern, and the rough unhewn Northern people ... . These Qualities are ... conspicuous, and proper to our Soil ... [The English] ought ... to be commended for an honourable integrity; for a neglect of circumstances, and flourishes; for regarding things of greater moment, more than less; for a scorn to deceive as well as to be deceiv'd ..."
>
> (Sprat op. cit.:114)

And so on. Not surprisingly, these qualities made England an ideal site for the pursuit of experimental philosophy. Sprat was, perhaps, taking up Bacon's proposal that national dispositions to various types of study should be a serious subject for the historian (cf Grafton 1991:30); but, clearly, his evaluation of the English had nationalist intentions (Aarsleff (1982) notes the consciously anti-French aspects of his work) - evidence, if it were needed, that the Royal Society and its cultivation of 'mathematical plainness' were products of political and institutional, as well as purely scientific, interests (cf Street 1984:39-40). Fairfax assimilated the empirical ideal even more blatantly to the independent resources of the English vernacular and its speakers:

> We should gather up those scattered words of ours that speak works, rather than to suck in those of learned air from beyond Sea, which are as far off sometimes from the things they speak, as they are from us to whom they are spoken.
>
> (Fairfax 1674; quoted in Jones op. cit.:1007n54)[14]

Thus, just as the literal/figurative distinction was central to the means by which the new science established its own legitimacy, and, perhaps, as a necessary aspect of that process, it was also implicated in the larger polemic of cultural and mental (also sexual) definition, of which Great Divide theories are a modern manifestation (cf chapter 6). While the literal was strongly identified with positive moral values (honesty, modesty etc.) and desirable personal and national qualities (rationalism, hard work, common sense, depth of judgement, etc.), figurative language, with its slippery and deceitful words, characterized excluded categories: (Catholic) scholasticism, the superstitious, the vain, the foreign, the female.[15] At a comparable moment of transition, where an emergent mode of thought required to define its own genre, the same sets of associations were used by Wordsworth to differentiate the (literal) language of *Lyrical Ballads*, "language really used by men", written in their souls by the hand of nature, from the "gaudiness and inane phraseology" - mere words - of other contemporary poetry (Wordsworth 1802/1973:595). They have also inevitably coloured attitudes to the contrast between speech and writing at different times. As Hudson points out, the Idols of the Market Place were depicted as primarily spoken, in contrast to the written stability and objectivity of scientific language (cf Hudson 1994:44); but, as regards their paradigm uses, speech is still commonly presented as a vehicle for ephemeral, phatic conversation, writing for factual, informative exposition (cf Appendix 1). While there is no simple parallelism between them, the two pairs of contrasts have intersected at many points. It would certainly seem that the virtues of depth, substance, worth, etc. associated with writing have frequently counter-balanced the alleged phonocentrism of the western tradition.

The principal aim of the 'plain representation' tradition has thus been to achieve the naturalization (and neutralization) of a particular form of discourse. With its own rhetorical basis concealed in, and legitimized by, the closeness of its supposed approximation to non-linguistic fact, designative

language could be, and frequently still is, represented as intrinsically anti-rhetorical, apolitical, responsible, and objective. Paul de Man observes, for example:

> It has been customary to assume that the common sense of empirical British philosophy owes much of its superiority over certain continental metaphysical excesses to its ability to circumscribe, as its own style and decorum demonstrate, the potentially disruptive power of rhetoric.
>
> (de Man 1979:11)

In the epistemology of its inheritors, this plain, spade-calling language has therefore seemed to furnish a code, external to its users, for the unmediated and objective expression of 'the truth'. As such, it has become a powerful instrument for projecting western modes of thought.

3.3.3.4 Conclusion

The goals set out here belonged to a recurrent pattern of aspiration towards the ideal of intrinsically non-rhetorical language defined, within an Aristotelian framework, by the correspondence theory of truth. The philosophical programme was principally concerned with the symbolic nature of reasoning, and thus the shape of mental discourse. Significantly for later developments, those who devised symbolic languages were, in effect, writing their symbols into cognitive operations, and ultimately redefining the characteristics of autonomous text as those of an underlying mental code. On the other hand, the stylistic precepts articulated norms for public discourse which assimilated these aspirations to the positive pole in an implied set of moral, religious and national contrasts. Since, moreover, it was widely felt in the Protestant world that Latin could not give access to real truths, either in science or religion, as effectively as the mother tongue (cf Eisenstein 1983:163; Knowlson op. cit.:28ff), they played a part in promoting the vernacular in opposition to classical language and culture.

Thus, while the seventeenth century saw the establishment of a genre of plain prose ("the kind of discourse we think of today as written prose" (Olson 1994:163)), as a vehicle for empirical science, its character was strongly normative: discourse was to be coerced into shape and the writer into conformity, not just for the sake of good science, but in order to unify the discourse community and authenticate its conceptions of truth, sincerity and free inquiry. This was the basis on which empirical science, and the Protestant approach to the Bible, founded their claims to validity. To an extent that Olson ignores, 'the kind of discourse we think of today as written prose' arose in the context of these specific, historically motivated ambitions.

3.3.4 Reading the Bible

In some ways the text of the Bible stood in the same relation to its readers as the world did to empirical science. Its forms were given, but the goal of research was to establish a 'true' reading to

put an end to controversy and false interpretation. Among Protestant reformers of the sixteenth and seventeenth centuries, a movement analogous to empiricism (with its origins in the humanist methods popularized by Erasmus) sought to restore a 'literal' reading of the Bible, tied to the original word of the text, as the only route to its true understanding (cf Grafton and Jardine 1986).[16] The emphasis placed on the need for individuals to read the Biblical text for themselves was primarily a challenge to Catholic reliance on received authority. Stripped of accreted commentaries and allegorizations, "the arbitrary fantasies of priestly academics" (Hill 1993:348) whose excesses had led to a potentially endless multiplication of texts, the words of the scripture (therefore the Word of God) were expected to speak unambiguously to each reader (thus, for Luther, 'scripture is its own interpreter'; quoted in Olson 1977:258-9). However, as Christopher Hill argues, since the Protestant church increasingly lacked the authority to enforce unanimity, the result of the new freedom was in fact a riot of competing interpretations (Hill op. cit.:417); this was perhaps aggravated by the spread of textual criticism inadequately supported by scholarship (Grafton 1991:ch8). While Bible reading and interpretation occurred in a context of preaching and catechizing which, in practice, no doubt preserved a degree of coherence (cf Collinson 1993:3-4), especially since, presumably, the illiterate still depended on others' interpretations,[17] it remains that the text alone was unable to determine its own reading.

At first, it had appeared that what was needed was a good text, established by rigorous principles, and accurately translated to remove patent 'non-sense' (Hill op. cit.:13; 418); or, as Boyle proposed, that reading it in Hebrew, which preserved echoes of the Adamic language, would give direct access to its meaning (cf Aarsleff 1982:43n3). More radically, Wilkins' universal character was designed to end religious controversy by abolishing the very possibility of misreading (ibid.:426; Knowlson 1975:96). By the end of the seventeenth century, however, it was plain that the Bible could be made to say almost anything; that, moreover, its most learned interpreters continued to disagree about its exact meaning; and that, with allowance for mistakes in transmission, the original text itself contained serious inconsistencies, "not a seamless divine garment but a human product full of rents and patches" (Grafton 1991:211). As a result, it could hardly be regarded as the infallible Word of God.

No less than in science, transition to the new mode of understanding was marked by the assertion of a new concept of the literal. In both cases, it was perhaps this which made the transition possible. Yet while the physical world preserved (or enhanced) its status as reality against which all descriptions were to be tested, the Bible lost its equivalent status as the delineation of final truth. There proved to be no purely linguistic method of establishing a unique meaning, beyond reach of further interpretation; and no interpretation that could compel agreement, without some political or cultural authority to impose it; as Hill comments: "How right Rome had been!" (op. cit.:428; cf note

11 above). The Bible ultimately succumbed to the same movement that had first delivered it from over-reading. When pressed, it was incapable of making autonomous sense; moreover, insistence on each individual's right to read the text for himself, at a period when Biblical themes permeated discourse at all levels of a society undergoing major politico-religious upheaval, ensured that the clash of interpretations was both public and violent. If the effect of this was to oblige readers to trust their own intelligence, rather than handed-down authority, it demoted the Bible to the same position as other texts. When exposed to 'rational' criticism, those assertions that went against "right reason and the suffrage of all our senses" were considered no longer binding (Bishop Gauden 1662; quoted in Hill, ibid.:417-8).

Paradoxically, as Lloyd argues, the very definition of the 'literal' in opposition to metaphorical discourse, also gave the latter an identity that insulated it from such criticisms (Lloyd 1990:24-5). This may have helped to stimulate non-designative forms of discourse (poetry, for example). Above all, it created a space where the scriptures could 'legitimately' exist, apart from the hard facts of science. Pursuit of the literal allowed everything else to escape and take on a life of its own, calling for the refinement of new, interpretative, subjective forms of reading to deal with it. The Bible was saved, not by being proved literally true, but by becoming the source of alternative forms of true understanding, outside the jurisdiction of designative meaning. Nevertheless, it remains that the figurative had been marginalized, and the literal confirmed as the only 'scientific' way of looking at the world.

3.4 Autonomous text internalized

3.4.1 The alphabet in thought

As illustrated, uncovering the true language of ideas had consistently been regarded as a question of creating some appropriate symbolic notation. With time, the notion was extended and mathematicized, particularly by Leibniz, who pursued the epistemological and psychological role of such notation beyond its Baconian origins, turning the 'alphabet in nature' into an internal 'alphabet in thought', the essence of intellectual activity (Dascal 1987:17; also Baker and Hacker op. cit.:24; see also Rutherford 1995).[18] For Leibniz, according to Dascal, man is a symbolic animal (Dascal op. cit.:18): symbolic reasoning is the only kind of which finite human understanding is capable. Moreover, the use of signs enables understanding to progress beyond its unsupported origins, and "opens up ... possibilities that it never could dream of reaching without them" (ibid.). At times he seems to have pressed beyond the view that symbolic means supported reasoning towards the more radical position that they actually constituted it, just as operations with signs constitute mathematical reasoning in algebra (cf ibid.:48ff). However, according to Dascal, he was not, in fact, prepared to take that final step (op. cit.:21).

But the chief motivation for Leibniz's (never realised) proposals for a *characteristica universalis* was the belief that a perfected notation in which to 'write' ideas would provide reason with an instrument that could turn out mechanically, by a process resembling calculation, conclusions that were true and error-free, just as Wilkins had intended his real character to end ambiguity in reading the Bible (Knowlson op. cit.:109-10; cf Rutherford op. cit.:231). As Derrida puts it, Leibniz's project "leads to nothing less than an 'overtaking' of speech by the machine" (Derrida 1976:79). The advance of this 'machine' and its consequences are discussed more fully in the following chapter.

3.4.2 The Leibnizian tradition

Despite waning interest in 'real characters', the project to clarify the understanding by symbolic means was widely taken up, especially by French philosophers at the end of the eighteenth century (Knowlson op. cit.:174ff; Aarsleff 1983:22-4). In particular, following Leibniz, it was thought that true understanding was mediated by the syntax of a universal logical calculus, whose terms were taken to stand in a representational relation to the primitive constituents of thought, and/or entities in the world. There is a clear line of descent (traced by Baker and Hacker op. cit.) from Leibniz to modern philosophers and linguists who have attempted to represent the universal nature of thought and language as such a formalism underlying the flawed texture of ordinary mental and linguistic behaviour. The same detachment from context has therefore been built into these accounts, with serious implications for their subsequent role in 'explaining' ordinary language use.

Most notable in this tradition is Frege's predicate calculus and its modern, truth-conditional successors, "in which the underlying grammatical structure common to all languages is taken as representing the 'pure form' of concepts with all historical and psychological 'accretions' stripped away" (Toulmin 1972:453). Wittgenstein's early philosophy held that, by means of a suitable notation, it would be possible to reveal the true logical structure of propositions, and that this would mirror the structure of the world (cf Wittgenstein 1961:§3.2). His view, in turn, influenced the logical positivists' quest to establish the 'empirically pure' propositional language underlying ordinary sense experience (discussed in Hacking op. cit.:101). Russell's notion of a 'logically perfect language', in which "there will be one word and no more for every simple object" (Russell 1989:197; cf Baker and Hacker op. cit:38) likewise echoed seventeenth century ideas; it also informed the philosophical basis of Ogden's Basic English project, the motives for which, in many respects, closely resembled Wilkins' own (cf Wolf 1988).

However, modern linguistic theories have not just been concerned to state the relationship between sign and referent as a semiotic fact, but also to make it 'necessary' by grounding it in human psychology. Thus, Ogden's theory, like Russell's, was 'behavioural' (cf note 3 above), in that it attempted to replace the merely "magical" relationship implied by its precursors with a bond

established by the universal facts of human behaviour (cf Wolf op. cit.:97). Chomskyan linguistics, though discrediting behaviourism, has, in one sense, simply relocated the grounds of this necessity within the same framework. 'Deep structure' is an ideal symbolic calculus, its claim to be the true form of language not now guaranteed by reference to the external world, or to human behaviour, but to the facts of biology. It is thus able to call on two convergent kinds of justification: the symbolism is neurally represented as a matter of biological fact, but, at the same time, necessitated by its own logic, so that "the principles of universal grammar are exceptionless" (Chomsky 1988:62). Moreover, since universal grammar is innate, it is a reliable guide to the structure of the human mind (cf Chomsky 1976:4), a claim which has been turned into a causal psychological model. Yet the view that cognitive activity exists in and through the manipulation of abstractly represented mental symbols, making it possible to think of an organism's conceptual system "represented as an algebra" (Fodor 1980:156; cf Gardner 1987:82) remains Leibnizian in the key sense discussed here. These points are considered further in chapter 4.

In Hacking's opinion, the perpetuation of this single basic explanatory scheme (even while its content has radically changed) means, in effect, that "our state of knowledge is still mapped on to the philosophical position of the nascent bourgeoisie of the seventeenth century" (Hacking op. cit.:184). The main difference in the case of cognitive linguistics is that what was previously treated as an idealization of normal language has been turned into an explanatory psychological theory about the structure of mental operations. What began as a written notation has, in this sense, been incorporated into the cognitivist account of the brain, and its biologically written 'programme'.

3.5 Conclusions

The rise of scientific thought in the early modern period was accompanied by advocacy of the designative theory of meaning, a 'discourse of things' in opposition to the scholastic 'discourse of words'. It championed the view that nature was amenable to rational explanation, to be achieved through systematic analysis and plain representation. It therefore called for special attention to the role of evidence and the conduct of argument, but crucially also to the language through which representation was to be accomplished. In this respect, it has been argued, it embodied a recurrent commitment of the Aristotelian tradition to ground knowledge in empirical experience, and to do so by means of a language whose internal consistency and stylistic austerity would bring it into direct correspondence with the structure of the world.

Just as written characters are held to transcribe (prior) speech sounds into graphic form, so language should itself simply transcribe the entities of the world. A language that achieved designative purity would bring about its own effacement, ensuring that its accounts were intrinsically objective and unrhetorical. It would be, as Rorty describes it, an ideally thin cushion, a formal interface between

language-independent entities and their ideas or mental representations. "The signifying element has no content, no function, and no determination other than what it represents: it is entirely ordered upon and transparent to it" (Foucault 1970:64). It was therefore the goal of many natural philosophers in the seventeenth century to achieve this ideal form of language, avoiding the pitfalls of common usage. In this way, the Book of Nature and its mental representation themselves became the archetypes of autonomous text, able (where the Bible ultimately was not) to determine their own correct reading.

Following Lloyd, it has been argued that textual transparency was, in reality, the product of a rhetorical strategy. The distinction between 'literal' and 'figurative', naturalized in the discourse of plain fact, cleared a space within which words were expected to 'mean what they say', independent of any interpretation. Its primary stylistic values, like those of the *sermo humilis*, associated the propositional truth of science with the Puritan and national virtues of honest, practical activity. It has therefore been argued that facts did not in any way uniquely determine their own representation, although the belief that they do so has defined the positivist goal of science. Instead, it was the historically situated model of representation itself and of the style proper to it which informed beliefs about the nature of empirical facts, and the operation of the mind that perceived them. The Aristotelian notion of written symbolism was projected on to the physical world, the mind and language, so that, to echo Olson's contention (1994:65), what was taken to be the literal analysis of their 'alphabet' of pre-linguistic constituents, in fact reflected just what the symbolic notation itself disclosed to perception. As de Man observes of Locke's account of the mind: "one may wonder whether the metaphors illustrate a cognition or if the cognition is not perhaps shaped by the metaphors" (de Man 1979:14).

In later philosophical, linguistic and cognitive accounts, it was the representational code that came to be accepted as the primary form of language and its purposes, with the result that it is now comprehensively implicated in contemporary ways of thinking. The following chapter outlines the consequences of the 'autonomous text tradition' for modern theories of cognitive psychology, learning and reading.

4. TEXT, REPRESENTATION AND UNDERSTANDING

4.1 Introduction: autonomous text and the nature of thought

4.1.1 Introduction

In the previous chapter it was argued that the correspondence theory of truth depends on, and derives from, an Aristotelian conception of writing. The world is held to consist of an alphabet of atomic elements which it is the project of philosophy and empirical science to represent as exactly as possible. To do so requires a notation free from distortion or subjective colouring, such that all it records will be necessarily true and self-interpreting. Establishing such a notation would, in effect, mean discovering the ultimate, 'alphabetic' forms of the world itself: the two projects are interdependent.[1]

It was further argued that the properties of this notation have subsequently been internalized as those of a mental programme, no longer the mirror of ideas formed by the pressure of the world on the senses, but of psychological reality. The coherence, indeed the possibility, of human thought and language is held to depend on operations in an algebra written into the mind (or brain), such that "language is a mirror of the mind in a deep and significant sense" (Chomsky 1976:4). Moreover, the logical necessity of these operations is taken to imply psychological or physiological necessity at the level of language production and comprehension.

The present chapter examines these contentions and their implications more fully. Its aim is to connect modern 'cognitivism'[2] with the tradition of autonomous text already described, and so reveal the essentially 'textual' assumptions underlying cognitive approaches to language learning and reading. It also discusses a number of the resulting problems with these approaches, and outlines a 'sociocultural' alternative.

4.1.2 Features of the textual tradition

Despite profound differences (cf Hacking 1975), modern models of language and cognition have inherited a set of basic assumptions from the designative tradition; notably that:

a) the processes involved are 'mechanical' and acontextual;

b) understanding is the result of translation between levels of representation;

c) communication depends on identity between internal representations, and therefore requires some kind of fixed code.[3]

These assumptions are briefly considered in the following sections in relation to ideas representative of the cognitive position drawn largely from the work of Chomsky and Fodor.

4.1.2.1 Decontextualized meanings and mental processes

The correspondence theory (cf §3.3.3) defines a notion of 'literal' meaning which serves to anchor the figurative; as Taylor puts it, "the rhetorical flourish can only exist as a flourish thanks to this primary way of relating" (Taylor 1985a:284). In the model of nature and mental discourse established by seventeenth century science, which placed the written symbol at its centre, the literal was transformed into a property of the world itself, part of what was already 'there' to be described, and woven into basic assumptions about the nature of language and meaning. Although the relevant concepts of 'world' or 'reality' have changed, language is still commonly thought of as, at bottom, representational (cf Olson, quoted in §3.2.5); so that "the dimension of speech activity which is the focus of a theory of meaning is seen as that whereby it offers depictions, potential or actual, of an independent reality" (Taylor op. cit.:252). Making language conform to the external world therefore remains a vital issue, as does the belief that (ideally) there is some privileged form that, in Rorty's phrase, "cuts reality at the joints" (Rorty 1991:79), to which it is hoped, our representations will ever more closely approximate. This idea is intrinsic to the positivist notion of progress (Hoy 1985:43).

The Leibnizian *characteristica* (§3.4.1) was intended to be such a form, a mental algebra in which the syntax, if not the content, of propositions could be objectively represented, enabling reasoning to reach true conclusions uncontaminated by the defects of ordinary language. In cognitive linguistics, however, the properties of such a notation are attributed to the 'language faculty', effectively reducing it to a mechanical device, explicable in terms of its formal rules, independent of its users' actual communicative intentions or activity in the moral and social universe (cf Gardner 1987:221; Harris 1987:137). For Olson, "Chomsky's assumption is that language is best represented by written texts" (Olson 1977:259); in fact, it might be argued that since the Chomskyan formalism is autonomous by origin and design, the only conception of language with which it is compatible is one made possible by idealized written specimens.

4.1.2.2 Mechanized operation

> Any scientific theory of the mind has to treat it as an automaton.
>
> (Johnson-Laird 1983:477)

The convergence of the machine metaphor with explanatory accounts of human activity has been charted by Harris (1987). Since the seventeenth century, the gap between man and machine has been narrowed, first by the claim that machines can (potentially) do whatever humans can, and then by the claim that, if this is so, machines should be counted as (potential) human beings (Harris op. cit.:14), so that now, while the mechanical may be explained by reference to the human, the human is itself presumed, at bottom, to be mechanical (cf ibid.:21). As a result, the machine has acquired a central role in accounts of human activity, both as abstract theoretical model and causal

psychological explanation. For the latter, however, as Max Black observes, the mental algebra requires some basis in psychological reality (Black 1970:456).

This final step has been facilitated by the computer. The distinction between the computer's symbolic organization and its physical structure has been taken to parallel that between psychological/mental states and brain states (cf Putnam 1975: especially chs14 and 18; cf 1988:7; Johnson-Laird 1983:8-10). Assuming "functional isomorphism" between the two, it is possible to abstract them from any particular (human or mechanical) instantiation (Putnam 1975:291). Then, as Johnson-Laird argues, "it follows not only that scientific theories of mentality can be simulated by computer programmes, but also that in principle mentality can be embodied within an appropriately programmed computer" (Johnson-Laird 1983:10).[4]

Having been abstracted as its functional equivalent, the computer model is now presented as an empirical account of individual psychology, furnishing not just a valid metaphor, but substantive evidence for the notion of the brain as a programmed machine, with processes necessary to the operation of computers adduced as evidence for their existence in human cognition (cf reading models, §4.3.1.2 below). Thus, for Fodor, the only "even remotely plausible" model for human psychology (that is, capable of reducing the complex predicates in natural language to their elementary semantic components) is computational (Fodor 1975:27). Like "real computers" (ibid.:65), human beings possess an 'input/output code' (i.e. natural language) in which they talk to one another, and a basic 'machine language' ('mentalese') in which they talk to themselves, with a 'compiler' to translate between them. The distinction between the two, necessary in the case of computers, "provides a precedent" for a parallel distinction in psychology (Fodor 1972:85), while "engineering principles" ensure that the computations conform to relevant semantic constraints (1975:67).

The rules of language are binding on the language user both logically and "because that is the way he is constructed" (Chomsky 1995:36); hence, neither the individual nor society at large is in a position to alter them (Harris 1987:17-18) (they are therefore quite unlike rules of the more usual, normative kind; cf Baker and Hacker 1984:ch8). Natural language use, Chomsky suggests, consists of "internalist computations and performance systems that access them along with much other information and belief, carrying out their instructions in particular ways to enable us to talk and communicate, among other things" (Chomsky 1995:27). And the fact that language is indeed used for communication is purely contingent (Chomsky 1976:70-1; cf Dummett 1993:174).

4.1.2.3 Translation as a basis of understanding and communication

In the Baconian tradition, science seeks to reduce the diversity of visible forms to their constituents. And, just as the true meaning of nature's text will only be revealed by this translation, so its correct

mental representation will require the translation of concepts from 'surface' language into a basic, universal symbolism.[5]

This 'translation theory of understanding', given classical statement by Locke (1690/1975 III chs1 and 2; cf Parkinson 1977), has in large measure survived unquestioned to the present. It implies not just a change of notation, but transition to a deeper level of analysis. The essential point is made by Ogden: translation between ordinary and Basic English, he notes, is not comparable to translation between two different languages. Whereas the latter is a matter of pairing parallel sets of words, in the former "we are never exchanging one fixed form for another at the same level" (Ogden 1940:117). This requires us to focus on the content of the message, to uncover what is 'really' being said, that is, its propositional meaning.[6] Basic English was designed to reduce the language to a core of essential terms, which Ogden and Richards believed were bound uniquely to their referents behaviourally, in the context of the organism's history of responses (cf chapter 3 note 4).[7] Cognitive linguistics, by contrast, requires the existence across the species of an innate, internal 'code book' permitting reduction of natural language to the small set of symbols and rules that generate it. This is the key to human language ability; moreover, it establishes the true identity of language itself.[8]

Psychologized in Fodor's theory, not only does translation accomplish formal semantic analysis, it also constitutes the actual processes involved in understanding. Now, however, the computational paradigm renders this process automatic. "What happens when a person understands a sentence must be a translation process basically analogous to what happens when a machine 'understands' (viz. compiles) a sentence in its programming language" (Fodor 1975:67; cf also 122).

Mutual understanding is simply extrapolated from the individual case. According to Taylor, the Aristotelian epistemological tradition "deems all states of knowledge and belief to be states of individual knowers and believers. Communication is then the transmittal, or attempted transmittal, of such states" (Taylor 1985a:259); while no community is necessary for the formation of ideas (or messages), they can, given a fixed, transparent code, be easily transferred from one mind to another, and the criterion for success is identity between their resulting mental representations. This is the model adopted by Saussure's account of the 'speech circuit' (Saussure 1983:11ff), which largely reproduces the Lockean view; Olson's use of it for written communication has already been noted (cf §3.2).

In this process natural language is secondary, merely a vehicle for conveying prior thought (Putnam ibid.:7). Indeed, in each case, a set of privileged, invariant facts is held to explain and necessitate those observed, in relation to which the latter are more or less extraneous. And, in each case, these facts can be regarded as a form of autonomous text. In effect, the reduction involved (of natural language to propositional form, performance to underlying competence, public utterance to

mentalese, etc.) takes as its paradigm the reduction of speech to writing. No less than for Bacon, this is the key to correct understanding.

4.1.2.4 The fixed code

As has been shown, this is little more than the 'common sense' of the western tradition. For Harris, however, the interdependence of the two ideas, the 'fixed code fallacy' and the 'telementational fallacy', is the basis of the complex of beliefs he calls the 'language myth' to which, in his view, this tradition has succumbed (Harris 1981:9-10 and *passim*). In essence, the 'telementational' notion of communication leaves unclear (a) what criterion of identity can be established between privately formed mental representations; (b) how such representations can determine their own meaning; and (c) how this meaning can emerge as the outcome of any sequence of internal operations. Moreover, the interpersonal dimensions of language use become problematic: if understanding depends on a representation knowable only by its possessor, communication must be at best unreliable. Thus, according to Widdowson, "there can never be an exact congruence of encoder's and decoder's meanings. Communication can of its nature only be approximate" (1979:180; for others, indeed, it verges on the miraculous, cf below). It is also open to distortion and manipulation.[9]

In their attempts to ensure identity between representations, therefore, the various proposed solutions to (a) and (b) have all relied on some form of universal code (for example, a real character, or the formulae of the predicate calculus), or the facts of human psychology. Yet simply automating the translation process sidesteps its crucial precondition: that the translator must already understand the language, in this case to know how - according to what public criteria - to decompose it into its constituents. Putnam points to the central difficulty in relation to the predicate calculus:

> The predicate calculus is often treated by philosophers as if it were the universal language; but to put beliefs expressed in a natural language into the predicate calculus format, one must first interpret them - that is, one must deal with the very problem we wish to solve. A theory of interpretation which works only after the beliefs to be interpreted have been translated into some 'regimented notation' begs the question.
>
> (Putnam 1988:88; original emphasis)

Hence the need to appeal to some ultimate authority, institutional or empirical, to produce representations that are self-interpreting. In the case of cognitivism, it is "principles that are universal by biological necessity, ... that derive from mental characteristics of the species" (Chomsky 1976:4). In Fodor's account, the necessary prior knowledge is available simply because the infant already possesses "some language rich enough to express the extensions of any predicate" of its first language (1975:80): all possible future linguistic and conceptual knowledge is innately pre-specified (ibid.:82). Thus the exceptionless logic of computational processes is written into the universal facts of the genetic programme.[10]

4.1.2.5 Discussion

Such attempts to automate language ability (which, as Rorty puts it, confuse the natural desire for understanding with an unnatural desire for certainty; Rorty 1980:223) introduce new puzzles in their turn (cf Nystrand 1986:26). Mechanisms tend to multiply. If the process of comprehension corresponds to the procedures of truth conditional semantics (cf Fodor 1975:80n18), a mechanism must be postulated to compute the formulae that represent the truth-conditions of natural language utterances (cf ibid.:113). Or again, since the propositional meanings of the language machine's output require illocutionary force to perform any communicative function, a mechanism is needed to relate the two in comprehension (cf Baker and Hacker 1984:119). Ultimately, some mechanism will have to recognize the mental representation as a correct understanding of the message, rather than an illusion or other private phenomenon; and this need for recognition returns the discussion to its starting point. By themselves, it appears, mechanisms cannot show any way out of this 'hermeneutic circle' (cf Taylor 1985b:18; cf below, §4.3.4.1).

As Taylor comments, the more a theory has recourse, like Ptolemaic cosmology, to cumbersome machinery whose sole purpose is to save appearances, the more certain we can be that it is on the wrong track (Taylor 1970:64). In his view, the flaw in such 'technological' positions is their disregard for the fact that "an action is essentially constituted by its purpose" (Taylor 1985a:196): explanations of human activity, including language activity, are always framed in relation to the agents' purposes, which privilege one outcome rather than another. By contrast, a machine's activity can only be explained by reference to the needs and purposes of its human users (ibid.:193-4). Hence, its disengagement from human situations and responsibilities, and so the basis of its autonomy in the sense discussed, is illusory. As Harris comments, by excluding its interpersonal dimension, truth-conditional semantics is "a semantics for robots, not human beings" (Harris op. cit.:159; cf Rommetveit 1985:186). In the case of a language machine running in accordance with its own built-in rules, generating all the grammatical sentences of a language and none of the ungrammatical ones, there will be nothing, without reference to human language users, to differentiate purely mechanical symbolic manipulation from purposeful language use (Harris op. cit.:74-5).

4.1.2.6 Conclusion

It is unlikely that the image of the human organism as an information-processor pre-programmed to turn out identical representations could have originated in a community lacking broad consensus about language norms (cf Harris 1987:75;122). As Romaine observes with respect to bilingualism:

> Much of the terminology reflects the ideological bias of a linguistic theory which has been concerned primarily with the idealized competence of monolingual speakers in the speech communities of western Europe and the United States: communities which, on the whole, have a high degree of stability, autonomy and historicity, and possess highly codified standard languages and prescriptive traditions.
>
> (Romaine op. cit.:251)

Thus, it would appear, this latest manifestation of the textual tradition is no less historically located than the authority of Rome, or that of a text such as the Bible.

In a move which, in Harris's view, typifies the 'language myth' in general, the proposed 'explanation' of human linguistic competence merely reverses the process of analysis which produced it: the essential cognitive properties are projected back on to the language user from a formal account (i.e. interpretation) of the external, standardized language system (cf Harris 1981:27).[11] And among the most powerful influences contributing to such standardization has been the spread of print literacy, and the notion of the exactly reproducible alphabetic sign that has accompanied it.

4.2 Cognitive autonomy, language and learning

4.2.1 The self-sufficient organism

> Written culture is secretive and personal. It is a great silence, inside which the individual carves out a free private space for himself.
>
> (Furet and Ozouf 1982:310)

These features of the western tradition reflect (and project) its commitment to the monological viewpoint, the privacy of the individual's experience and mapping of the world. In Bruner's view, "the notion of the 'private' Self free of cultural definition is part of the stance inherent in our Western conception of Self" (1986:68); it is, moreover, one to which print and the act of private reading have contributed (see §8.1.2.2). As noted, it embodies an influential political conception of the freedom of the human agent, "without outside interference or subordination to outside authority" (Taylor 1985a:5), and of technology as his value-free instrument. In this sense, it is necessarily implicated in a wider ideological debate (see, for example, Street 1984; Harré 1993; Clifford and Marcus 1986; Danziger 1990; Ingold 1995a).[12]

This notion is reinforced by an experimental paradigm which reproduces the supposed opposition between individual and social worlds (cf Cole 1985:147, Table 1), defining the subject in terms of its isolation from external influences, and seeking explanation solely by reference to internal causes. For a psychology "caught up in the self-image generated by positivist science" (Bruner 1990:32), the paradigmatic research setting remains the laboratory, in which the external environment can be controlled (that is, excluded; cf de Castell et al. 1986:7), and the central processor observed "in the

raw" (Shweder 1991:81).[13] Further support derives from what Geertz terms a 'stratigraphic' conception of behaviour, inherited from the nineteenth century: a view of the agent as separated into levels, in which the biological (most basic) explains the psychological, and cultural activity appears only as the surface - conspicuous, but of largely incidental importance (cf Geertz 1973:37).

What emerges is a notion of the language user as self-contained, detached from the social and moral implications of language use, in relation to whom the primary linguistic fact is the 'idiolect', "an individual phenomenon, a system represented in the mind/brain of a particular individual" (Chomsky 1988:36; original emphasis), to which the institutions and history of the language community are extrinsic.

Social activity is correspondingly undervalued, treated as the setting for individual language competence, with little consideration given to the processes by which it might shape what the competent language user is able to do. In its place, 'performance' is simply a flawed or incomplete realization of the internal system. As will be seen, this leads to intractable difficulties in relation to the explanation of language learning and literate activity.

4.2.2 Learning

This notion of self-sufficiency has produced a widely shared conception of human learning

> in the paradigm of a lone organism pitted against nature - whether in the model of the behaviourist's organism shaping up responses to fit the geometries and probabilities of the world of stimuli, or in the Piagetian model where a lone child struggles single-handed to strike some equilibrium between assimilating the world to himself or himself to the world.
>
> (Bruner 1985:25)[14]

In the cognitive approach, learning is a 'function' mapping experience on to the 'steady state' of adult competence according to a system of rules genetically available to the neonate (Piatelli-Palmerini 1980:130). This is hardly learning at all; indeed, Chomsky talks of 'growth', by analogy with physical organs which develop according to a genetically determined programme (for example, 1980a:37ff;125f; 1995:15). Environmental conditions may 'trigger' and channel it, but form no part of the particular 'organs' that grow, "each ... more or less rigidly endogenously paced, and relatively inaccessible to purposes and influences other than those which conditioned its evolution" (Fodor 1972:93; cf 1983:100).

The unfolding of adult competence is thus unaffected by the accumulation of specific knowledge.[15] Facts relevant to the use of a given language (say Spanish) "are simply part of the knowledge that grows in the mind/brain of the child exposed to the use of Spanish" (Chomsky 1988:25). They are known without overt learning or instruction "because that is the way the human mind works" (ibid.).

All that remains, therefore, is to account for the evolution of the innate structures themselves, which is a problem for empirical research comparable to explaining why the heart develops as it does. For Chomsky, there is no reason to view the evolution of higher mental faculties as essentially different (Chomsky 1980a:322).

4.2.3 Discussion

However, when the organism is "represented as an algebra" (Fodor 1980:156) and the distinction blurred between logical structure and physical capacity, confusion arises between the formal complexity of concepts, on the one hand, and the cognitive abilities possessed even by newborn infants, on the other. Thus Fodor stresses "the enormous computational complexity of the concepts [infants] are required (and normally manage) to acquire" (Fodor 1972:91). Notwithstanding the difficulty adults have in writing dictionary definitions, a child may learn as many as twelve new words a day, a fact which "leaves no real alternative to the conclusion that the child ... is basically learning labels for concepts that are already part of his or her conceptual apparatus" (Chomsky 1988:28).[16]

What the child already 'knows', however, is no different from what the philosopher seeks to articulate; his knowledge of the meaning of a word is strictly comparable to the definition the dictionary writer attempts to set down. Inevitably so, as long as the criterion for successful communication is identity between internal representations. Fodor makes the point: "If the conceptualizations of children are radically different from those of adults, it is extremely difficult to imagine how children and adults could ever manage to understand one another" (Fodor 1972:87). From the premise that cognitive activity is reducible to an autonomous mental code, he concludes that there is no possibility of difference between the child's understanding and that of the adult or expert, or reference to either as actors in a social situation.

Learning - that is, concept learning ("and what else could it be?"; Fodor 1975:95 original emphasis) - is thus both irrelevant to development and impossible, for the reasons mentioned, namely that no concept can be learned that is not already representable in the "unlearned internal representational system" (ibid.:79; original emphasis; cf ibid.:86). Contrary to the developmental theories proposed by Vygotsky and Piaget, therefore, there is no hierarchy of conceptual complexity from infant to adult; perhaps even an implied loss.[17] The computational processes available to the young child, for example in acquiring syntax or recognizing faces, are mathematically far more complex than those required for so-called 'higher' intellectual tasks (ibid.:92-3).

4.2.3.1 The social dimension of learning

Johnson-Laird disputes Fodor's conclusion about how much requires to be innate, on the grounds that all logics can be reduced to primitive, recursive functions; the child is born with the power of a Universal Turing Machine, and discovers, in development, new ways to combine these functions to construct more powerful logics (Johnson-Laird 1983:142-5). But this is not the fundamental problem. Instead, it is necessary to question the possibility of an abstract mental symbolism, independent of cultural definition. Neither children, nor those with whom they interact, work like Turing machines, without contextual support, to make sense of a world where, in principle, anything might be the case. In fact, the essential features of the child's 'knowledge', according to this account - that it is (a) innate; (b) unconscious; and (c) indistinguishable in kind from fully articulated, 'adult' forms - are simply consequences of excluding any of the considerations normally relevant to interpreting purposeful activity in context (the attribution of beliefs, desires, intentions, etc. to participants, the existence of 'public space' between them) from psychological explanation.[18] This point is taken up below.

4.2.3.2 Second language learning

As suggested in the Introduction, the cognitive conception of learning is thus effectively divorced from the purposes, activities and values of education, leaving little scope for a constructive relation (what Ochs calls 'bidirectional exchange'; cf Ochs 1990:302) between learner and teacher , or any possibility of relating cognitive change to the uses of particular means (for example, literate practices) in a given setting. In relation to second language learning, it has led to interest in establishing a developmental sequence for the acquisition of syntactic rules, etc., and encouraged theories that treat learning as unmediated internal change. The 'lone organism' is typically depicted in a sea of 'input' which is taken to lead to 'acquisition' by its operation on a mental acquisition device, regarded as essentially invariant across contexts and modalities. This is a questionable basis on which to construct a theory of language learning which aspires to be 'learner-sensitive', or to devise a pedagogic approach to reading within it. These points will be developed in chapter 5 in relation to the discussion of extensive reading programmes, and in chapter 8 in relation to the implementation of the Hong Kong study.

4.2.4 Summary

The features of the 'autonomous text' tradition discussed here are thus seen to have informed the central premises of the cognitive approach and to unite its disparate branches (psycholinguistics, artificial intelligence, cognitive psychology). They are summarized in their modern form by Williams (1989:108-9) as:

1) "methodological individualism" - the belief that "the essential character of [the mind's] inner workings is, ... in certain crucial ways, independent of the individual's relations to other individuals, to social practices, and to environment";

2) "methodological structuralism" - focus on mature cognitive structure, such that "learning is modeled on full adult competency";

3) "intellectualism" - "the idea that all behaviour is to be explained by some prior act of rule-governed cognition";

4) "psychological realism" - the belief that cognitive structures are culturally invariant.

With this 'textual' background in mind, the following sections offer a critical analysis of approaches to reading and comprehension from a cognitive point of view.

4.3 The cognitive view of reading and comprehension

4.3.1 Reading processes

Since its nineteenth century origins, reading research has usually been regarded as a branch of cognitive psychology, concerned with the processes, now identified with those of the 'central processing mechanism', that occur 'behind the eye' when a reader understands a text (Shweder 1991:77ff; cf Goodman 1976). It has assumed that the object of analysis, though not always uniformly available or fluent, is a psychologically real property, largely independent of age, social group, or the nature of the reading activity (cf Horowitz and Samuels 1987:14), and capable of being investigated by the reading of brief, specially constructed texts (cf Venezky 1984:5). This complements the belief that written language is devoid of properties, transcription in the Aristotelian sense, confined to level (1) of Table 2.3, and incidental to a general, underlying language comprehension process; indeed, the foregoing discussion has suggested that, in reality, the two notions mirror each other.

4.3.1.1 Cultural variation

Undoubtedly, there is now greater interest in the possibility of cultural variation. The realization that people make sense of experience by assimilating it to their existing 'structures of expectation' (cf Tannen 1979:138) has promoted a constructive/interactive view of human understanding, and of reading in particular. The consequent shift of attention from the acquisition of phoneme/grapheme correspondences to broader, 'top-down' aspects of meaning, and the external factors that channel cognitive functions, reflects awareness that a range of contextual considerations are relevant to understanding; "increasingly the action is in the cultural constraints that are provided" (Perfetti, reported by Foorman 1986:8).[19]

Regarding second language reading, this has involved recognition of the importance of the reader's cultural presuppositions and knowledge of textual conventions, along with specific features of the

text and the reading situation itself, all of which have been included as independent variables in cross-cultural studies (for example, Steffensen and Joag-Dev 1984; Carrell 1987; Carrell and Eisterhold 1988; Bernhardt 1991). But while these may modify or constrain the process of comprehension, it is still the properties of the individual mind that determine its true nature. With respect to their 'internal processors' there can be no essential difference between groups as diverse as the Maoris described by McKenzie (cf §1.1) and the European settlers; as a result, the varieties or occasions of their actual reading, the kinds of texts with which they are engaged, the circumstances of their engagement, its relation to other daily activities, their assumptions about its significance and purposes, or the many other respects in which the act of reading may be differently situated and constituted for them, hardly figure in cognitive accounts. Indeed, notwithstanding its cultural origins and functions, it remains usual to find models of reading treated as explanatory from which such matters are entirely absent, where what is depicted is a bare encounter between 'learner' and 'text', or 'learner' and 'language', with interest focused on the internal processes of comprehension, and the extent to which they may transfer between languages (cf §5.3; also the aims of the Hong Kong reading scheme, §8.2 below).

4.3.1.2 Interactive models

The concept of interaction adopted by interactive models of reading is strictly computational, derived from the 'feedback loops' that allow higher-level computations to determine the nature of lower level representations (cf, for example, Fodor 1975:165-6; Rumelhart 1980; Spiro 1980; Samuels and Kamil 1984:196; Schwartz 1984:ch4; Carrell et al. 1988). As such, it refers to the automatic internal processes (letter and word recognition, parsing, semantic interpretation, the activation of appropriate schemata, etc.) that combine information from different sources (from letter-shapes to aspects of background and linguistic knowledge), to produce a final 'mental representation' (cf Garrod 1986:226). Although fast and complex, these are serially ordered and so potentially separable (cf Rogoff 1990:19).[20] Computational models co-exist with others that are factorial ('skills'-based) derived from multivariate analysis. For example, Samuels and collaborators depict interaction between a variety of 'inside the head' factors, such as intelligence, decoding ability, background knowledge, metacognitive strategies, language facility, motivation, etc. and a set of 'outside-the-head' factors, including context, instruction, text topic, style, readability, etc. (cf Samuels 1987:310-1; Table 10.2; cf also Samuels and Eisenberg 1981; Samuels and Kamil 1984).

In either case, as Grabe points out, interaction is internal and unconscious, not a matter of what readers 'do' in order to comprehend but of what 'happens' when their comprehension mechanisms are in working order. This is quite distinct from conscious engagement with, or response to the text; the sense in which Widdowson speaks of the active participation of the reader in constructing the writer's presumed meaning, in accordance with Grice's co-operative principle (Widdowson

1979:174ff; Grabe 1988:56-7); or in which Nystrand depicts the interaction between reader and writer as 'contractual' (1987:207; cf §3.2.4). Reference to the shared expectation of understanding implies participation in a wider community, in which texts are read and understood, and connected to its history through their generic forms and the process of allusion between texts.[21] As such it necessarily falls outside the scope of internalist explanation (cf below).

4.3.2 The mystery of comprehension

As noted, if successful communication requires identity between the sender's and receiver's mental representations of the same message, and if, as appears, even a trivial message leaves much to be filled in by inference, it is astonishing that mutual understanding is ever achieved, especially since the processes involved must work faster than conscious thought. When it is achieved through the medium of writing, with the extra processing required to extract the intended message from the page, the ability of the competent reader seems to verge on the miraculous. According to Eskey: "In this as in every higher use of language we might as well admit ... that we are up against a major mystery" (Eskey 1973:72).

Allusions to mystery occur frequently in discussions of reading comprehension.

> We can probe the chemical composition of stars in far-off galaxies and analyse the neural chemistry of our brains. But in the realm of the mind and consciousness our understanding is primitive. As yet no one can give much account of what is taking place in your head as you read this sentence.
>
> (Robinson 1995:18)[22]

In part, the problem appears to be the hiddenness of the mechanisms involved: without access to the relevant neural circuitry, one cannot see comprehension actually occurring. Mandler comments: "We can observe the motions we make when we tie our shoes ... but we cannot observe the mechanisms that control the tieing itself. ... When we comprehend something we know that we have understanding, but not how we managed to do so" (Mandler 1983:33). For a teacher, the problem may appear insurmountable, as D'Andrade implies with respect to mental events generally: "Since mental events are private, the teacher cannot point directly to the learner's mental machinery and say 'what you just experienced is a <u>thought</u>, not a <u>feeling</u>'" (d'Andrade op. cit.:105; original emphasis).

Computer modelling may seem to offer a solution, on the grounds that "it means exactly the same for a computer program to read as it does for a human to read!" (Dehn 1984:83); it enables us to "'look inside [the learners'] heads' before and after reading a passage, and thus 'really see' to what degree they understood what they read" (Dehn 1984:96; cf Goldberg 1991:48). On the other hand, it may be, as Fodor suggests, that such efforts will fail because the processes involved "are just too complicated for anyone to understand" (Fodor 1975:9).

Carrell quotes the following to indicate the many components of reading comprehension to be accounted for:

> Reading comprehension is considered to be a complex behaviour which involves conscious and unconscious use of various strategies including problem-solving strategies to build a model of the meaning which the writer is assumed to have intended. The model is constructed using schematic knowledge structures and the various cue systems which the writer has given (eg words, syntax, macrostructures, social information) to generate hypotheses which are tested using various logical and pragmatic strategies. Most of this model must be inferred, since text can never be fully explicit.
>
> (Johnston 1983:17; cf Carrell 1991:161)

However, the difficulty here is not simply one of complexity, but of basic coherence. While a model of the text's meaning (equated with the writer's intention) is constructed and tested, this account gives no indication of who or what is responsible for it: references to "knowledge structures", "models", "cue systems", etc. suggest a complex mechanical/computational process, but it is unclear whether or not the 'behaviour' in question is under the reader's conscious control. Yet, as argued, reading strategies, problem-solving, etc. are only intelligible in relation to the activities of a rational agent. While the reader can, often without thinking, use such strategies to help him understand a text (by reading the abstract, referring to the headings, etc.), it is problematic to imply that they might actually function autonomously (cf Taylor's point, §4.1.2.5 above).

Moreover, if the output of the processes is an internal picture or proposition, the difficulties to be explained are simply pushed further back into the cognitive system, where they arise in relation to the internal 'homunculus' reader to whose inner eye this output is displayed (cf Kenny 1991); nor, as argued, is this difficulty removed by supposing this homunculus to be a little computer. Notwithstanding such efforts at automation, there is no escaping the necessary internal relation of comprehension to a person who comprehends, who recognizes the representation (sensation, etc) for what it is; and if this is so, accounts of this kind leave comprehension exactly where it was.

In fact, however, the 'mystery' of reading comprehension has less to do with the inaccessibility of its proposed mechanisms, or the nature of the internal dimension itself, than with the fact that people ordinarily do understand what they read with little difficulty. For Chomsky:

> The study of the development of cognitive structures ... poses problems to be solved, but not, it seems, impenetrable mysteries. The study of the capacity to use these structures and the exercise of this capacity, however, still seems to elude our understanding.
>
> (Chomsky 1976:76)

The deepest mysteries are not concerned with the nature and working of the internal language system, but the effortless behaviour in which it is put to use, about which, it appears, "there is little

... that we can say as scientists" (1976:138). Equally, there is no doubt that reading comprehension is explicable in terms of the internal programme, however complex; what is remarkable is how we manage to execute it in everyday life:

> The child who accurately and efficiently translates a string of printed letters into meaningful communication may appear to be accomplishing that task with little mental effort. In fact, however, the child is engaging in complex interactive processes that are dependent on multiple subskills and an enormous amount of coded information.
>
> (McLaughlin 1987b:59)

This points to a wider difficulty raised by the exclusion of social activity from explanatory accounts.

4.3.3 Discussion

4.3.3.1 The category mistake

It is true that, in certain circumstances, comprehension can be described as a process; it may take time to unravel an argument, and the effort can be interrupted. In others, perhaps, the meaning is immediately obvious. But in either case, the words, and probably larger sections of text, are already understood; the process is one of construing them appropriately in context. By contrast, modelling "the entire process from the time the eye meets the page until the reader experiences the 'click' of comprehension" (Samuels and Kamil 1984:185) assumes a continuum between the print on the page and the final mental representation. Orthographic words form the raw perceptual input to a computation in which they interact with internally stored meanings and larger discourse expectations. This idea may derive from the fact that children are normally taught to identify the shapes of letters or words before they attempt to construct the sense of a text. But a pedagogic division of the task for ease of learning, etc. is distinct from supposing that comprehension itself is so divided. Given a legible text, it would hardly make sense to ask a competent reader how far his comprehension had got between seeing the marks on the page and grasping their meaning. In this case, therefore, the notion of process is inappropriate.

It might be thought that better psychological data would resolve these issues. Perhaps it is just a matter of speed (cf Fries' "high-speed recognition responses"; Fries 1962:xvi; cf §5.3.5.1); in the competent reader, for whom all its stages are subconscious, the process is so nearly instantaneous that to interrupt it would call for special techniques. This would be characteristic of the 'alphabetic' tradition, in which individual letters are both the smallest units of text and of its understanding.[23] However, it rests on a crucial category mistake (cf Ryle op. cit.;esp 22-3). It is no more the case that strings of letters underlie reading comprehension than that a sequence of still frames underlies the moving pictures we see on a cinema screen; while the quick succession of frames explains our perception of movement, this is categorically distinct from seeing the images as images of particular

scenes, people, actions, etc. The latter requires (public) justification, not causal explanation; and it is only here that questions of comprehension can arise.

4.3.3.2 Contrasting senses of 'bottom-up' and 'top-down'

This tends to be blurred by reference to 'bottom up' and 'top down' processes in two distinct senses: (1) on the one hand, 'bottom up' implies raw perception, the stimulus to the visual receptors, or the physical objects 'outside the head' (the page, distinctive features of letters, etc.), in relation to which 'top down' means the interpretative processes required to make sense of them, or, more generally, everything presumed to take place 'inside the head'. (2) On the other hand, 'bottom up' is applied to the (sequential) reading of small units of text (letters, words, etc.) and 'top down' to the awareness of larger discourse features, intertextuality, schemata, knowledge of the world, etc. The category distinction above applies only to (1); (2) is exclusively concerned with problems of interpretation; specifically, the semantic interaction between units of a text and the reader's expectations, experience with other texts, etc., all of which are 'inside the head'. In this latter sense there can be no 'pure' ('bottom-up') representation of words that does not presuppose a ('top-down') interpretation. This is the sense in which, with respect to understanding visual representation, Gombrich concludes that "we can never really separate what we see from what we know" (Gombrich 1977:331).[24]

4.3.3.3 The myth of the internal process

> An 'inner process' stands in need of outward criteria.
>
> (Wittgenstein 1953:153)

As Wittgenstein observed, too often "we interpret the enigma created by our misunderstanding as the enigma of an incomprehensible process" (Wittgenstein 1974:155; cf Hilmy 1987:224-5). It appears that the cognitive treatment of comprehension is just such a case, a conceptual muddle felt as an empirical problem (Wittgenstein, ibid.).[25] So, for example, in Dehn's claim (cf above) that "[computer] programs can clarify ... what is meant by comprehension" (Dehn 1984:83), by supplying "a way of getting at understanding itself" (ibid.:85), the distinction between the two is lost: investigation of how texts are understood is presented as elucidating both the concept of understanding and its causal mechanisms (cf Baker and Hacker 1984:242; Putnam 1981:56; 1988:73ff; also chapter 2 above).

Misconception of this kind cannot be corrected (although it may be concealed) by modelling possible empirical solutions. As Hacker observes:

> [Philosophical confusions] are liable to run unnoticed through an elaborate and sophisticated empirical theory precisely because these conceptual incoherences are present in the very form of the questions the theory addresses.
>
> (Hacker 1991:122)

Language use undeniably involves mental activity. Facts about the operation of the brain can provide evidence against which to test theories of its organization, normal properties and malfunctions. But, notwithstanding Dehn's optimism, they cannot determine what our concepts of meaning, understanding, etc. should 'really' be. Equally, as Baker and Hacker observe, the fact that we do not (and may never) know what neural structures or processes causally mediate understanding does not imply that we have no idea what understanding 'really' is (Baker and Hacker 1980:343). Whatever emerges from neurological research with respect to the traces of language on the cortex, etc., it will add nothing to our ability to explain understanding: this requires reference to normative, interpretative, therefore public, criteria, including those concerning how the reference of terms, and identity of meanings are to be established, etc. (cf Baker and Hacker op. cit.:300n66).[26] If these attempts to automate the process of understanding ultimately fail, so, too, do the efforts of 'schema theory' to fix understanding by reference to what Rorty calls a "permanent neutral matrix" of internal representations (Rorty 1980:179).

4.3.4 Schemata and mental representation

If it is claimed that our ways of seeing, knowing, reasoning, etc. play a constitutive role in the forms of representation, knowledge, understanding, etc. we produce and accept, the significance of schemata can hardly be exaggerated; it will be argued that they are, as such, central to understanding, and opposed to the notion of autonomous representation discussed earlier. However, in cognitive accounts, schemata normally feature as forms of information structure enabling efficient storage and retrieval of information (for example, Minsky 1977), or as 'scripts', 'scenarios', etc. used in the construction of familiar sequences of events (for example, Schank and Abelson 1977). In such cases, they tend to be regarded as cognitive attributes of competent speaker/hearers, and involve automatic reference to an internal catalogue of patterns during the comprehension process. As such, therefore, they fulfil a role analogous to that of ideas in earlier theories: internal representations that guarantee the Lockean model of understanding (cf §4.1.2.3), with the difference that, as a product of the cognitive apparatus, they are beyond the reach of the conscious subject.

Understanding is then explained in terms of possession of the correct schema; and 'having the same understanding' equated with 'possessing the same schema'. Thus, for Johnson-Laird, understanding means achieving correspondence between linguistic representations and states of affairs reconstructed in mental models (Johnson-Laird op. cit.:156). According to Carrell and Eisterhold "it seems clear that readers activate an appropriate schema against which they try to give text a consistent interpretation. To the extent that they are successful, we may say that they have comprehended the text" (Carrell and Eisterhold 1988:79). The 'click' of comprehension is evidence of success: "We experience the click of comprehension when there is a match between textual information coming in from outside the head with the concepts stored inside the head" (Samuels and

Kamil 1984:206). Conversely, failure to understand may be attributed to absence of the relevant schema (Rumelhart 1980:48). Culture itself may be treated as a mental model, 'possession' of which may then be regarded as a criterion for intercultural understanding; given relevant information, or screening for potential sources of misunderstanding, texts exchanged between cultural groups should produce 'the same' internal representations as in their native setting (Steffensen and Joag-Dev 1984).

Ultimately, schemata of different kinds may be held to fill the entire account of how the human organism learns to act in the physical and social worlds, and to underlie individual differences as well as areas of shared expectations (cf Arbib and Hesse 1986:58). However, the assumption remains that these internal forms constitute the true (neurologically real) explanation of observed public behaviour (cf ibid.:69).[27]

4.3.4.1 Discussion

Perfetti likens the competent reader to an expert solving a physics problem, whose knowledge enables elements of the problem to 'trigger' the requisite schema: "in well-written texts ... relevant schemata are triggered (activated) by text contents" (Perfetti 1986:23). Yet, it could be objected, in all but the simplest cases, it is rarely self-evident what schema is appropriate for a given text (cf Brown and Yule 1983:240f), and there is no obvious criterion for 'correct' application (it would be circular to suggest the 'click' of understanding). Indeed, if understanding is compatible with any accompanying mental representation (or none),[28] such representations cannot be the criteria for our having understood a text, but must instead presuppose understanding. And if this is so, they cannot be invoked to explain it (cf Putnam 1988:30). Hence decisions about the 'appropriateness' of schemata can only be a matter of normative judgement, not a cognitive reflex.

It seems undeniable that, as Fillmore puts it, "when we understand the word carpenter we do so by knowing something about what carpenters do" (op. cit.:264); which knowledge must therefore precede our ability to use it. From a cognitive perspective, as previously noted, this might be evidence for the existence of an innate vocabulary of concepts to which all others can be reduced. However, efforts to confine the schema to some set of basic semantic components ('dog' -> 'barks', 'has retractable claws', etc.), inevitably prove arbitrary (cf Harris 1987:90ff).[29]

All such moves reflect the urge of the Aristotelian tradition to escape from the 'hermeneutic circle' (cf §4.1.2.5) by fixing a representation that necessitates itself, without appeal to some already shared interpretative scheme. Once again, the surest way is by reference to an ideal text that precedes all interpretation. Thus schemata, written into the mind, are held to supply details omitted from the actual written text, allowing its "gaps" to be properly "filled" (Samuels and Eisenberg 1981:62), and enabling the competent reader to make instant, inference-free reference to their contents. By evoking a schema, writers are able to omit details that must, in this Platonic sense, 'really' be there.[30] In the

case of 'cultural models', the whole may actually lie beyond the scope of any individual competence (cf Ochs 1990:289).

So conceived, the schema perpetuates the idea of the 'mere' copy, imperfect realization of a fully specified, underlying original (cf §2.2.7). But the adequacy of a description (etc.) is not established in this way. While readers can usually supply further details if required (for example, by a comprehension test, or a psychological experiment), it is unnecessary to imagine the latent presence of a schema to account for this ability, any more than it is necessary to suppose some ideally complete internal representation of the human figure to 'underlie' our ability to understand a matchstick drawing. In reality, understanding always involves justification; and adequacy, etc. is decided in relation to the function, and the public context in which a representation occurs (cf Wittgenstein 1953:35). What may be considered necessary in a given context is never fixed, but specified by the generic conventions, rhetorical purposes, etc. of a community. To adapt Bryson's phrase, understanding is through-written by social codes, not composed of pure Adamic 'perception' plus a second stage of 'comprehension' (cf Bryson 1983:63). As argued, it is this social and historical specificity of recognition which modern cognitive accounts, like the textual tradition to which they belong, have sought to suppress.

Schemata, therefore, are not features of mental organization that causally mediate understanding; rather, understanding involves recognition that a particular situation, event, text, etc. is interpretable within a given, socially justified schematic framework. To understand how schemata are explanatory, therefore, it is necessary to look to the nature of publicly constituted interpretative practices. Insofar as they possess psychological reality, it would appear to be by backward projection from the genres or ways of seeing established and modified through social exchange.[31]

4.4 A sociocultural view

4.4.1 The dialogical self

> It is man's participation in culture and the realization of his mental powers through culture that make it impossible to construct a human psychology on the basis of the individual alone.
>
> (Bruner 1990:11-12; original emphasis)

Attempts have been made to escape the "cul-de-sac of monological consciousness" (Taylor 1989:308). In Taylor's view, for example, it is "catastrophically wrong" to accept the cognitive account of the individual unquestioningly (Taylor 1985a:259); he challenges the notion of the monological observer which, "by a fateful shift" (ibid.:282), has come to be regarded "somehow as the way things really are with the subject" (ibid.:259; also 291). The shift in question is perhaps the

counterpart of the one by which the literal has become part of what is 'there' to be described. Taylor argues that there can be no separation of the individual and the social; and no understanding of human life based exclusively on individuals forming representations in their private mental spaces, and sending one another messages about them (cf Taylor 1989:311). He proposes instead a 'dialogical' conception of the self, in which conversation in public space does not merely exist between individuals, but constitutes their self-understanding as agents: "A great deal of human action happens only insofar as the agent understands and constitutes himself or herself as integrally part of a 'we'" (ibid.). Or, as Bruner puts it, the self is "dialogue-dependent" (op. cit.:101).

Parents and siblings provide the first settings for the child's dialogical activity. Development is "a matter of gradually finding one's own voice as an interlocutor" (Taylor op. cit.:313); not simply by learning to adopt the point of view of the other, which assumes that the individual pre-exists the dialogical situation, but rather by taking one's place in the dialogue (cf ibid.). It is thus inconceivable without reference to its context: emphasis must therefore be placed on participation in social activity, rather than on processing static internal representations (cf ibid.:308). Focusing on dialogue as the basis of understanding, and recognition that all signs, including those of the 'alphabet in thought', are constructed in social activity, suggests a means by which 'culture' may serve to redefine the bare facts of the human genetic programme, and points directly to the symbolically mediated account of learning and development discussed further in chapter 7. This may still suggest the independence of the two strands in development, as if 'culture' took over when 'biology' had run its course. Yet, as Ingold maintains, there is no point at which genetic endowment can be understood in a vacuum, apart from the structure that the environment provides (Ingold 1995b:17).

Putnam, also, is critical of the reductive notion of 'scientific' explanation implied by "the idea that nothing counts as a contribution to 'cognitive science' unless it is presented in terms of 'mental representations' (and these are described 'computationally')" (Putnam 1988:55-6). Everyday explanatory concepts such as beliefs, intentions, agency, etc., which do not reduce to the notation of the *lingua mentis*, are treated as 'mythological', at best epiphenomena of underlying computational states (cf Bruner 1990:8-9):

> One looks for something definable in nonintentional terms, something isolable by scientific procedures, something one can build a model of, something which will explain intentionality.
>
> (Putnam op. cit.:74; original emphasis)

This something, he has now concluded, "is just what does not exist"; to look for an explanation in these terms is to look in the wrong place (ibid).

4.4.2 Schemata, memory and social practice

In relation to cognitive schemata, much interest has focused on the extent to which these patterns mould what is perceived, read or remembered into conventional forms. For example, on recalling texts, subjects typically do not distinguish between the original and details inferred on the basis of such standard expectations, or added by processes of rationalization, etc. (cf Bartlett 1932:ch5; Johnson-Laird 1983:162; McLaughlin 1987b). Bartlett's study is often cited as among the earliest to focus on the constructive role of schematic organization in memory. However, it tends to be overlooked that his theory placed the schema in a social context.[32] In his view, it was vital that "the 'schema' determined reactions of one organism are repeatedly checked, as well as constantly facilitated, by those of others" (op. cit.:206) in social exchange. He interpreted his experimental evidence as showing that "both the manner and the matter of recall are often predominantly determined by social influences" (op. cit.:244), and devoted the latter part of the book to extended discussion of the ways in which memory is socially constructed.[33]

More recently, Frake has concerned himself with the social function of the frame, or 'event', regarded as a conceptualization in terms of which cultures organize their experiences, memories, plans, etc. (Frake 1980:57). Events give significance to the actions, etc. they frame, and determine appropriate speech acts, levels of formality, risk, etc. They are not representations in a private mental process, but active constituents of a form of life:

> Culture does not provide a cognitive map, but rather a set of principles for map-making and navigation. ... One must learn not only how to map out everyday life, but also how to fix one's position, determine a destination, and plot a course. And because people do not voyage alone, one must recruit a crew.
>
> (Frake op. cit.:58)

In an example drawn specifically from map-making, Frake has discussed the function of the medieval 'compass rose' as a model that enables times of high and low tides to be calculated for any location by co-ordinating solar and lunar time with direction (Frake 1985). His concern is to show that sophisticated logical thinking is not exclusive to the 'literate mind' (cf chapter 6): medieval seafarers did not require to be schooled or literate to use such charts, but rather to grasp "the cognitive schema upon which they were based" (ibid.:268). Nevertheless, this requires no reference to an underlying mental representation; the cartographical device itself provided a culturally elaborated framework for directing action relative to a particular purpose. The seafarers' understanding of tides was brought to definition by the use of external symbolic means, embedded in a well-defined practical context.

Such practices can be seen as elements in the construction of "shared processes of understanding that make it possible for us to inhabit a common world" (Johnson 1991:76; original emphasis). In this

sense, memory is a social rather than a private phenomenon, whose forms are historically situated, "indivisible from the material act of representation" (Melion and Küchler 1991:7). Schemata provide a rhetorical structure (Shotter 1990:131) by imposing a generic form on the stream of experience which establishes the coherence of our perceptions, etc., and connects individual understanding to shared canonical narratives (such genres must therefore be seen not only in formal, but also sociohistorical terms; cf Todorov 1984:80).

In Bruner's view, schemata are designed for the sharing of memory within a culture rather than simply to ensure individual recall (Bruner op. cit.:56ff). He stresses the vital role such narratives play in "bringing children into the culture" (op. cit.:81); and later in repairing (by dramatizing and explaining) rifts in the social fabric (ibid.:95). Similarly, Carruthers points to the way in which social memory forms around particular literary works, whether oral or written: "Literary works become institutions as they weave a community together by providing it with shared experience and a certain kind of language, the language of stories that can be experienced over and over again through time" (Carruthers 1990:12).[34] Ultimately, as Bakhtin argues, such genres enter and shape the forms of language itself:

> Cultural and literary traditions (including the most ancient) are preserved and continue to live not in the individual subjective memory ... and not in some kind of collective 'psyche,' but rather in the objective forms that culture itself assumes (including forms of language and spoken speech), and in this sense they are inter-subjective ... (and consequently social).
>
> (Bakhtin 1981:249n17)

It is also relevant to note the vast array of integrated physical schemata that shape our actions (the movement of the artist's brush across a canvas, of the hunter's spear-throwing arm, the posture of the reader, etc.), techniques learnt through imitation and experience in a culturally shaped environment, establishing the myriad of 'memories', continuities of practice, on which the coherence of the everyday world depends (cf Bartlett 1932:201).[35]

4.4.3 Understanding across contexts

The idea that mutual understanding is assured by identity between mental representations, etc., has been shown to be misconceived: it is always necessary to justify understanding according to accepted public criteria, relative to the genre of representation concerned. Moreover, no 'world view', including that of empirical science, can divorce itself from a particular organization of conceptual space, hence of what is 'there' to be represented. Ultimately, as Putnam puts it, "there is no criterion for sameness of meaning except actual interpretative practice" (Putnam 1988:xiii); nor any, therefore, for 'sameness of understanding'.

This poses the question of how to construct a valid, non-propositional framework for cross-cultural translation and understanding. Undeniably, as Putnam observes elsewhere, we can, when necessary, make sense of one another's beliefs, utterances, etc., however alien. Yet, as he notes, this must mean relative to our own criteria of intelligibility (Putnam 1981:117-9). In translation across contexts (historical or cultural), the discursive practices, categories and assumptions that constitute meanings in the observer's context form the lens through which he attempts to recognize those of others.[36] While 'shared humanity' may create a universally intelligible core of experience, etc., the highly variable sets of beliefs, actions and mores that surround it in different cultures and at different periods, together with the more complex facts specific to the institutions and practices of a given culture, are likely to ensure that, in all but quite trivial cases, there is no distinguishing the sense to be made from the categories of belief and understanding that make them coherent in their original setting.[37]

Hacking emphasizes the extent to which the 'styles of reasoning' characteristic of a given community "determine the very nature of the knowledge that [its members] produce" (Hacking 1981:143; cf 1982:49ff). A modern specialist may 'understand' the work of Paracelsus, in the sense of being able to attach contextually appropriate truth values to its propositions, but this will not reproduce the understanding of contemporary commentators. Medieval and modern readings are framed in relation to discourses which articulate the world and its contents quite differently. Nor do they involve knowledge only as a static 'possession', but as constantly deployed and remade in specific acts of reasoning, inference, etc. to which different uses of text, evidence and authority are integral. Reading Paracelsus thus requires more than translation of his terms, or an attempt to make his text "say as much truth as possible" (Hacking 1982:60). Ultimately, what was regarded as self-evidently true, or an intelligible reason for asserting (or disputing) an opinion among medieval alchemists, Hacking maintains, will depend so closely on the styles of reasoning they adopted that there is little sense in the notion of understanding the text independently of learning how to reason like a medieval alchemist (cf also Putnam 1981:x).

With regard to actual reading, 'styles of reasoning' should be understood in relation to the wider sphere of activity in which they arise, the taken-for-granted context of behaviour, itself distinctively, if less explicitly, shaped both by institutions, social codes and systems of belief, etc. and by a multitude of everyday techniques and modes of practice, all of which serve to define the possibilities for thought and action at a given period. However, it is clear that there can be no acontextual grounds on which to test the 'identity' of understandings in such a case, and no possibility of occupying an 'objective' stance. Hence there can be no evading the often difficult and tentative process of 'making' sense of culturally or historically alien texts, etc. by seeking the basis of their intelligibility to agents in context, and bringing it into an intelligible relation to conceptions of our

own (cf Tambiah 1990:123), without independent criteria, or guarantee of ultimate success. Above all, it will entail an effort to gain some share of a participant's practical knowledge, exposing 'our' views as well as 'theirs' to reappraisal (Taylor 1985a:281; 1985b:129).

Comprehension, in this sense, need not have an unambiguous end-point (for example, a unique mental representation); in many (perhaps all) cases, the best we can hope for is a good interpretation for certain purposes (cf Rorty 1991:89). Moreover, it may be gained in various ways, not confined to the hypothesis-testing strategies discussed earlier (cf §4.3.2) - for example, through discussion, or experience, or imagination - and these can be open-ended, and take various forms, depending on the reader and the context of reading. It need not be an individual process at all, so much as one of natural cultural exchange and assimilation; it is relevant to recall Bartlett's discussion of 'conventionalisation' in the exchange of items (artefacts, representations, narratives, etc.) between cultures, the tendency of cultural discourse to assimilate the alien and bring it into a stable form in its new context through processes of adaptation, simplification, etc. (cf Bartlett 1932:245; and ch.xvi).

This will require us to abandon the notion of 'context' as a stage on which events are enacted, texts understood, etc., capable of determining their meanings (cf Culler 1988:ix). If the frame/content boundary, and therefore, the 'facts' to be interpreted, are not fixed in advance of the discursive practices that distinguish a given set of issues as being 'in question' (for example, as true or false), understanding must be similarly constituted. Attention will therefore be required both to the way in which the boundary is drawn in a given discourse (cf Kittay, §2.4.2.3), and to the varieties of genre in which meanings are produced. For, as Bakhtin argued, though often of great antiquity and authority, genres constantly grow and interact with one another and with changing institutional and societal pressures in the present (cf Todorov 1984:84-5).[38]

4.5 Conclusions

4.5.1 The autonomy of fact

In Gellner's view, representing the world as governed by mechanistic principles has enabled western science to establish the "autonomy of fact" (Gellner 1973:173), that is, to treat it as a mosaic of pieces independent of human concerns. With the progress of science, "greater and greater expanses of truth acquire an autonomy from the social, moral and political obligations and decencies of the society" (ibid.:180). By contrast, 'primitive', non-mechanistic systems involve no such radical decontextualization of reasoning; beliefs are established and confirmed in the social world, therefore "man the knower is not alienated from the citizen and moral being" (ibid:180).[39] Gellner argues that the scientific vision is an artefact of the demarcation maintained between different types of

knowledge and uses of language in this tradition (for example, the emotive, the empirical, etc.). Though "introduced 'innocently', as a neutral analytic device" (ibid.:173), its purpose, like that of Aristotle's *logos/muthos* distinction (cf §3.3.2), is to rule out as 'irrational', 'magical', etc. other belief-systems, including that of the layman, which make no such separation.

Since the seventeenth century, therefore, science has been assumed to give access to the "true and ultimate furniture of the universe" (Putnam 1981:15; cf 143), the alphabet in nature: propositional, acontextual, unshaped by human interpretation. Moreover, the 'autonomy of fact' has been extended to include human thought itself, with the representation of ideas in an innate computational algebra (the 'alphabet in thought'); one that, following the cognitive revolution, has been understood to exist not just as a logical abstraction but as a matter of neurological fact. This 'comprehension machine' has been assumed to run anywhere; and its output, the cognitive *telos* of identical mental representations, is taken to form the basis for communication between autonomous individuals.

This chapter has argued that the attempt to explain understanding without reference to its social and consensual character rests on a confusion between the conceptual and the empirical, that is, between the fact that people understand and the mechanisms 'in the head' supposed to make their understanding possible; moreover, that, far from explaining understanding, the notion of an internal representation, even if 'written' in an innate alphabet, leaves it untouched, since no representation has the power to determine its own meaning. Such attempts therefore fall into the 'homunculus fallacy' (Kenny 1991), from which empirical machinery cannot extricate them. The real problem concerns the concept of 'understanding' itself, which, as Kenny argues, is not something predicated of the mind (or brain) alone, but of the whole person. Hence the treatment of reading comprehension as a sequence of automatic processes leaves everyday reading activity as 'mysterious' as ever. Moreover, portrayal of reading as an encounter between acontextual cognitive mechanisms and stable, reader-independent texts turns our own forms of alphabetic, print-orientated behaviour, notably the fast, silent consumption of written information, into a universal, rather than a historical formation.

4.5.2 Framing an alternative

> The true opposition is between language as representation and language as activity.
>
> (Dummett 1993:185)

The distinction between Gellner's two visions closely resembles that drawn by Ingold between 'technology' and 'technique' (cf §1.3.3); between forms of explanation that identify the technical with the purely mechanical, divorced from the purposes of its human operators, and those (simpler, 'folk') forms that do not. The procedures of the cognitive machine divorce it from the meanings, and hence

the history, of its users, and reduce their activities and explanations to secondary ('performance') phenomena.

Despite increased awareness of the social construction of cognition elsewhere in the human sciences, however, the flame of the first cognitive revolution remains undimmed in areas, including applied linguistics, where cognitive science is a dominant paradigm.[40] Hence they have made little progress towards the definition of a more contextually responsive approach to language and cognition. In some quarters, it is true, the dangers of ignoring 'cultural realities' are recognized. According to Widdowson, "individuality is itself a cultural concept: there can be no private independent real person dissociated from the cultural values which define the society in which the individual lives" (Widdowson 1990:13); thus he has pointed out the error of assuming a hypothesized cognitive device such as Krashen's Monitor Model to be universally valid (ibid.:25). Hewitt has called for reading research

> to take account of the social, cultural and political contexts in which [comprehension] occurs, and how these influences affect how readers approach texts, their attitudes to reading, their comprehension of texts and the effects their reading has on them.
>
> (Hewitt 1982:19)

However, it will be clear, this cannot be achieved by yoking 'culture' to the computational account, as if it simply modified processes, etc. pre-specified by the internal programme. An alternative such as that proposed by Taylor would emphasize instead language as activity, therefore social and purposeful, and understanding as established in and mediated by dialogue, therefore constituted by a community, its meanings not 'in the head', but communally available through participation in the institutions of the culture. This would involve a shift from the 'propositional' certainties of the textual tradition, towards 'rhetorical' recognition that symbol systems, meanings, and hence, the knowing subject itself, are historically produced, and so, at bottom, cultural artefacts. It would also require focusing on the practices (styles of reasoning, genres of discourse, etc.) in which cognition is embodied. What is meant by appropriate behaviour with texts (including 'comprehension'), would then be established, not in relation to private, mental criteria, but culturally and generically. These ideas are developed in chapters 7 and 8. First, however, the following chapter turns to consider current ('technological') approaches to extensive reading in language education.

5. READING AND LEARNING IN A TECHNOLOGICAL PERSPECTIVE

5.1 Introduction: two views of reading and learning

5.1.1 Introduction

At the height of the Chomskyan revolution, the genetic programme provided a "bottomless magician's hat" from which to pull ready-made answers to the problems of linguistic capabilities (de Beaugrande 1984:10). Not only linguistic concepts, but even such sophisticated abilities as reading could be regarded as part of a human being's innate faculties; according to Eskey, "it seems clear that for reading as for all of the higher level language functions, the human mind must be innately programmed, and the job of the teacher is to activate, not to create, the program" (Eskey 1973:72). The prestige of the paradigm outweighed the objection that reading was unknown for millennia after the emergence of *homo sapiens* in its modern genetic form (perhaps 100,000 years ago), and even today is universal in only a limited range of cultural circumstances. It would hardly seem plausible that non-literate societies could be "innately programmed" for reading without showing the least tendency to adopt literate behaviour, whatever the individual and societal advantages to be gained.[1] Ultimately, the fact that reading cannot be regarded as a cognitive universal or as elementary in psychological terms, and cannot be reduced to universal mental structures or stimulus-controlled processes or associations, must call into question any approach that sets out to explain it exclusively in internal cognitive/genetic terms.

5.1.2 'Alphabetic' reading

Eskey may only have meant to suggest that some aspects of reading seem to be 'unteachable', but such comments reflect a tendency to use the genetic programme to exclude the possibility of a relation between cognitive activity and its sociohistorical context. The previous chapters have sought to show that this is the latest (biological) version of a perennial attempt by the western epistemological tradition to guarantee the finality of its own categories. Throughout, the priority of internal/transcendental forms has both presupposed and reinforced a boundary between 'intrinsically human' attributes and different kinds of cultural accessories. This, it has been argued, underlies the mutually confirming, 'autonomous' concepts of language, text, learning and cognition which continue to form the basis of much current theory-construction in linguistics and psychology. Although the use of cultural artefacts, notably tools and symbols, marks a crucial difference between human beings and other species, its role in defining the scope of human activity and modes of understanding has typically been ignored. Viewed autonomously, tool use is simply the exertion of individual will on inert matter; tools may be technically improved, but the associated cognitive activity, self-contained, prior to any material embodiment, will remain essentially unchanged. This corresponds to Ingold's notion of 'technology', in which the relation between a technical means and

its object is strictly separable from the purposes, understanding, etc. of the human agent, who is thereby turned into a function of the technological process.

Reading is commonly presented as a technology in this sense. The focus on 'technical' questions of cognitive skills and competences, etc. suggests that it is essentially neutral and acontextual. Thus, Underwood and Batt begin their recent study of 'reading and understanding' by asserting that reading purpose plays no part in their account: "we are not concerned ... with why the reader wants to recover the meaning of the print, so much as how the recovery is achieved" (Underwood and Batt 1996:6; original emphasis). 'Understanding', it is implied, can have an objective sense that makes no reference to the activity in which it occurs, the genre of text, or the norms of an interpretative community. The illusion of 'context free' processes has been consolidated in the tradition described in previous chapters. If writing is merely an auxiliary transcription of (internal/transcendental) speech, identified in post-Saussurean linguistics with the 'language system', it is instrumental and unproblematic: there is "in principle a fairly simple mapping of units of the phonological representation ... into written symbols" (Mattingly 1972:138). It is only a short step from describing the language system to supposing that the human cognitive apparatus is 'designed' to produce and process linguistic knowledge of the required form: in general, a unitary language system implies a unitary linguistic competence - "one, holistic ability to comprehend language" (Sticht 1972:293). Equally, since language is syntactically linear and componential, so too are the processes of reading and understanding (cf chapter 4).

To read one must know a given graphic notation, learning which will involve forming automatic associations between its graphemes and the already-familiar phonemes to which they correspond, "the substituting of patterns of graphic shapes ... for the patterns of sound waves that have been learned as representing the same language signals" (Fries 1962:119), at level 1 in the table in §2.2.1. Once learnt, these become a visual substitute for the 'language itself', the only difference being the medium through which they impinge upon the nervous system (ibid.:xv). However, the notation inevitably remains extraneous; it is this, according to Huey, that leads to the difficulties experienced by children learning to read:

> The child comes to his first reader with his habits of spoken language fairly well formed, and these habits grow more deeply set with every year. His meanings inhere in this spoken language and belong but secondarily to the printed symbols.
>
> (Huey 1908:123)

A picture has thus emerged that presupposes an ahistorical, instrumental conception of written (specifically) alphabetic representation (it is symptomatic that Underwood and Batt make no attempt to consider the reading of non-alphabetic scripts). As argued, it is complemented by the 'designative'

idea of text as an ever closer approximation to ideal (i.e. autonomous, literal) representation, which therefore finds, in the conventions of the modern printed page, its own image perfectly reflected.

5.1.3 Unmediated learning

The corresponding image of learning is of linear progress according to a pre-ordained logic (for example, Piaget's 'stages', or Krashen's 'natural order'), triggered by the operation of external inputs or stimuli, towards a naturally defined end-point ('abstract operations', 'rationality', 'competence', etc.). As embodied in grades, levels, materials, etc. (cf de Castell below), this has clear administrative convenience. In this specific respect, there is little to distinguish behaviourist, Piagetian and cognitivist approaches, despite their divergent assumptions about the learner's native contribution to the process, and the extent to which the stimuli themselves play a constructive role in it. In each case, learning concerns a relation between features of the environment and the individual learners' psychological properties. At an extreme, as noted, the cognitive approach effectively dispenses with the notion of 'learning' (for example, in relation to a first language) in favour of the unfolding of innate competence according to a fully specified developmental programme (cf §4.2.2); that this has also been widely accepted as a basis for second language learning, it may be argued, is to the detriment of theory construction, and of little help to teachers.

If the development of second language competence is pre-programmed, 'exposure' to language will be expected to lead directly to improvements in proficiency, and teaching will aim to channel and facilitate it, to provide appropriate 'input' to activate the internal acquisition mechanism, and enough opportunities for practice to enable the new knowledge to become automatically available (cf Ellis 1985:234ff). Interest need only be taken in the properties of the input itself to determine if it contains sufficient instances of particular language structures or lexical items (cf Wodinsky and Nation 1988). Social interaction may be necessary for the 'negotiation' (etc.) of appropriate forms of input, but it is irrelevant to what is acquired: the nature of the knowledge itself is not mediated by the forms of interaction or media in which it is embedded. Such a view tends to divorce the cognitive machine from any more broadly conceived educational enterprise, and has allowed the field of 'second language acquisition' to develop with little regard to, or responsibility for, the actual contexts of language learning or the concerns of teachers. It has thus continued to justify Stern's comment that "the study of education ... is perhaps the closest [discipline] to language pedagogy. Yet it is probably the least recognized and most neglected" (Stern 1983:419; cf also van Lier 1994).

5.1.4 'Ideographic' reading

Toulmin draws a distinction between 'ahistorical' and 'historical' accounts of language, reason and concept-use (Toulmin 1972:453-4), the former purged of all extraneous variable features, the latter

situated in, and dependent on, evolving cultural circumstances. In Toulmin's view, the historical account makes the unique features of human cognitive capacities less mysterious, and requires a much weaker interpretation of nativism; moreover, it admits (as the ahistorical account cannot do) the possibility that "the forms of the linguistic end-product reflect the nature of the external tasks on which those capacities are exercised, much more than they do the nature of the capacities themselves" (ibid.:467). Ultimately, perhaps, 'the capacities themselves' lack any content, apart from the contextually defined tasks in which they emerge.

It is this possibility which is developed by sociocultural approaches to human psychology and development. According to Cole, for example, psychological processes are (1) culturally mediated; (2) historically developing; (3) arise from practical activity (Cole 1990:91). In this view, tools and symbols are integral to human cognitive development; as Olson puts it: "almost any form of human cognition requires one to deal productively and imaginatively with some technology" (Olson 1986:356). The limits of human biological capacities have constantly posed what Bruner calls "challenges to cultural invention", stimulating the development of a "tool kit ... of prosthetic devices" by means of which they have been overcome or redefined (Bruner 1990:21). Signs are among the primary 'tools' of this kind; but, as will be clear, they are also cultural formations, whose cognitive potential is not given, and cannot be specified, in advance of a particular context of use.

Written signs can certainly be used to record speech, and, as Goody and Watt contend, the alphabet is especially flexible in this regard (§6.2.3); historically, this function has had great significance, particularly under conditions in which both composition (by dictation) and reading (aloud) were necessities imposed by the intractability of the materials and the social function of the scribe (cf Saenger 1982). The practice of fast, silent reading is itself therefore a historical phenomenon, a consequence of specific features of modern printed text, and remains dependent on its availability. In each case, prevailing social and technical possibilities combine to shape the nature of the symbolic activity. Modern text enables forms of literate practice that effectively detach what is written from any spoken manifestation, making it possible to regard the two as parallel systems, with no necessity that one should underlie or guarantee the other; ultimately enabling written language to achieve psychological priority (cf §2.3.5; also Table 2.4).

Since the 'ideographic' sign is holistic, a unit of meaning without 'underlying' components, learning to operate with written signs will involve a more difficult task for the learner, making it necessary not just to learn to 'look through' them at familiar units of the language system, but actively to construct a meaning from them. Thus, in Luria's view, the child's understanding arises from the use of signs itself, without prior understanding of their nature (Scinto op. cit.:73). The learner requires to discover and assimilate the discursive potentials made available in the written system (i.e. at levels 2

and 3 in the Table 2.3), the nature and import of which is dependent on particular literate genres and associated practices (cf also Vygotsky's view, quoted below; §7.2.2).

5.1.5 Mediated learning

The contextual notion of learning developed by Vygotsky and his followers placed at its centre the incorporation of culturally elaborated forms of activity ('psychological tools') into the learners' cognitive organization, setting up new relations and new potential for development within it (cf Vygotsky 1978:39;55). Learning takes place in a milieu which is not just 'added on' to psycholinguistic processes, but which (through the mediation of language, cultural institutions and their technical and symbolic means) informs the nature of the activities through which the learner develops. This promotes the idea that cognition is not solely a private mental activity, but social and collaborative, intimately shaped by the practices in which it is embodied. With respect to literacy and language learning, attention is directed away from abstract proficiency, to the nature of the specific operations which reading and writing make possible.

It is relevant to associate these alternative approaches with the technology/technique distinction. In step with the technologizing of the mind, according to which learning is structured by its inherent properties, there has also been a technologizing of learning 'methods', likewise acontextual, designed to turn out standardized populations without reference to the cultural circumstances. In a mediated approach, by contrast, the structure of learning is held to depend on the use of particular techniques - the activities, implements and symbolic forms - at participants' disposal. In this case, there can be no separation of the activities of learning and teaching, or reliance on methods to 'work' without reference to their specific contents and the quality of the interaction between expert and novice in using them, the 'bidirectional' exchange to which Ochs refers (cf §4.2.3.2 above). The latter view is developed in chapter 7. First, as a prelude to discussion of the unmediated picture, the following sections offer a brief description of the historical circumstances which have tended to promote it.

5.2 Reading and learning technologized

> Before becoming one of the values of our civilization, the individual was an accounting unit.
>
> (Furet and Ozouf 1982:313)

5.2.1 School as a machine

At the beginning of the nineteenth century great interest was taken in the 'Madras' school system developed by Andrew Bell for the children of British soldiers in India, by which, it was proposed, those of the lower orders at home could also be disciplined and turned into an efficient workforce (cf

Richardson 1994:91ff). Its advocates saw its operation in modern mechanical terms: according to Sydney Smith, it made "every boy the cog of a wheel - the whole school a perfect machine" (quoted ibid.:93); Coleridge hoped to see "this moral steam-engine ... adopted and in free motion throughout the Empire" (quoted ibid.:97). Interest in learning processes and instructional methods has always tended to reflect social pressures; this 'technological' approach, whose novelty and seemingly moral and progressive aims attracted the early Romantics, was a product of the circumstances of the early industrial period and the rise of an urban working class no less in need of civilizing than the half-cast children of Madras. Although, in an anticipation of later developments, Bell presented his system in the form of an "analysis" of an "experiment in education" (1797; cf Richardson op. cit.:92), as this example itself shows, whatever the technical sophistication of experimental means, attempts to justify particular educational methods on empirical grounds are closely determined by socially defined interests. Moreover, it is the needs of the masses, or colonial populations, that tend to be addressed in mechanical terms, with emphasis on the lowest utilitarian levels of literacy and numeracy (cf Resnick and Resnick 1977; and below §6.1.4). Learners in these contexts, it appears, make suitable experimental 'subjects' but hardly merit individual attention. In general, the technologizing of educational methods is characteristic of bureaucratic responses to combined demands for efficiency and social control, rather than of a serious interest in individual development. By contrast, as Clanchy observes, the emphasis on the individual, and transmission of the classical canon, "remained as much the preserve of an elite of *litterati* in 1900 as it had done in 1200" (Clanchy 1993:333; cf also Donaldson, quoted in §2.3.3; also Appendix 2).

The social pressures of the bureaucratic state saw the development of statistical methods, based on the properties of the normal curve, by which large populations could be organized into units and calculated as probabilities, and which, in the process, redefined the nature of the social phenomena concerned (cf Stigler 1986; Hacking 1990; Danziger op. cit.), particularly, as noted, by transforming the mean of the distribution into a real property of the population (Hacking op. cit.:107).[2] Psychometric principles, derived from these new forms of reasoning, were easily accepted as a scientific means of arriving at decisions appropriate to the management of such populations (cf Johanningmeier 1980).

As such, they were seen as applicable to education, where, by 1900, mass access had created a need, most acute in America, for convenient and reliable systems of grading, standardizing and organizing school populations, and of ensuring consistency of pedagogic outcomes.[3] The result was a tendency for school methods and objectives to converge with those of psychometric research (cf Danziger 1991:ch7), with widespread use of group tests. The internalization of 'normality' (cf chapter 4 note 12) made it possible to regard standardized measures as a reflection of the biologically determined mental traits of individual learners; moreover, the statistical notion of 'general intelligence' (*g*)

reduced multiple dimensions of comparison to a convenient index. As a result, these principles provided an apparently legitimate, objective basis for the strongly normative psychological assumptions of the middle classes whose interests they most obviously served. The normal distribution was widely interpreted as a model of the actual distribution of inherited levels of intelligence in the population, and, therefore, as evidence of the natural rightness of the existing social order.[4]

Such technological commitments clearly stand opposed both to the humanist ideal of the perfectible individual and to the self-sufficient individualism of the cognitive psychologists. The co-existence of, and interaction among, these theoretically and socially differentiated conceptions has produced anomalies. In particular, the individual of psychometric research was, and remains, a statistical entity, a derivation of the aggregate,[5] founded on differences between test scores which this approach has sought to maximize by item analysis. As such, it is strictly incompatible with the subject of cognitive psychology, possessor of autonomous mental processes whose universal features are investigated by means of the experimentally manipulated behaviour of individuals. Yet experimenters have often been willing to infer conclusions of the universal type from statistical data relating exclusively to variation within and between groups (cf Bakan 1966:433; Böhme 1977). This is especially apparent in relation to the treatment of reading.

5.2.2 Reading from a psychometric perspective

The standard pedagogic concept of 'reading comprehension' (i.e. a test outcome) arose in the context of the introduction of group tests of silent reading for bureaucratic reasons (cf Johnston 1984:149); in this sense, it was a product of the methods used to measure it, rather than of a theoretical concern with reading in its own right. So, as Hewitt notes, the specification of reading abilities was more or less ad hoc, according to the taste of the experimenter, as was the selection of tasks in which they were expected to be displayed (Hewitt 1982:13). But though lacking clear definition, test results were readily interpretable in psychological terms; and since stable factors could be held to indicate the existence of genuine psychological attributes (cf Gould 1981:267-81; Danziger op. cit.:112), factor analysis emerged as a valid technique for testing, or, more often, for 'revealing' the internal structure of learners' abilities. As with cognitive experiments, the tests made use of specially constructed texts and tasks bearing little relation to readers' normal reading activities; and a debate was initiated about whether reading was 'unitary' or composed of some set of necessary 'skills' which hinged entirely on the psychologized interpretation of statistical evidence.

Reviewing this work, Rosenshine (1980) found no clear evidence of even a minimal set of 'essential' component skills, still less of any skills hierarchy. However, it would be mistaken to interpret this result, in its turn, as proof that reading skills 'do not exist', or that there is nothing to be gained from

helping learners to develop specific ways of handling texts for specific purposes. It shows only that they lack an independent basis, either as a regularity in the data in question or (still less) as mental attributes of readers, but are defined by reference to the importance attached to particular practices in a given context. On the other hand, the teaching of a fixed, apparently necessary set of reading skills without reference to context has served to reinforce the assumption that the norms of western print literacy are both autonomous and universal (Street 1984:197; cf Robb and Susser below, §5.4.3).

5.2.3 Programmes and packages

In short, the psychometric approach was conceived in the image of its methods, leading to a largely circular relationship between the theory and its experimental 'proof' (cf §5.4.3). Its aim was not to uncover the nature of individual mental life, or the psychology of reading, but to deploy normative psychological criteria in the service of larger social, bureaucratic, and instructional interests: ultimately, it could be argued, the notion of unmediated learning was itself an artefact of these methods and the social and political commitments they embody.

It has promoted the rise of the teaching method or programme as a technological 'package', a form of mass production designed to turn out knowledge in standardized forms without relation to specific contexts, norms or values, and so organize large, potentially unruly populations. De Castell et al. view American school reading programmes in this light. Tests generated the bureaucratically useful notion that programme effectiveness could be expressed in terms of a simple, quantitative index; and packages like the SRA 'laboratory' were designed to promote the standardized conceptions of literacy and its acquisition that this entails, providing "technocratic literacy instruction ... commoditized and packaged curricula", and reflecting value-for-money attitudes to education among the American public (de Castell, et al. 1986:6). The consequence, these authors suggest, was that 'internal' criteria (performance on a test) were used to measure an ability that is actually established by reference to the 'external' accomplishment of every-day literate activities, leading both to a major discrepancy between the two, and to neglect of the actual literate activities in which the learners normally engage (de Castell, et al., ibid:6-7). Wells, too, argues that reading schemes chiefly serve teachers' need for reassurance of progress, rather than the actual needs of students. As such, they are a function of an abstract curriculum, designed to achieve social or institutional, rather than individual ends (Wells 1981:268).[6] Michael West's reading scheme for Bengal was explicitly conceived on these lines, and its influence remains strong in the programme developed by EPER and adopted in Hong Kong (discussed further in chapter 8).

In certain contexts such technologies offer a practical solution to the problem of minimally trained teachers, since a fully articulated 'method' by-passes the need for advanced pedagogic skills or judgement (cf for example, §5.4.1 below). Nevertheless, as Johanningmeier contends, the

psychometrists were wrong to suppose that, in reducing educational outcomes to measurable indices, they could technologize pedagogic decisions, or eliminate questions of value: "Questions about how children learn and questions about what should be taught and to whom became interwoven and confused one for the other" (Johanningmeier op. cit.:42). He suggests that the proliferation of work on 'transfer of training' in the early years of this century reflected an attempt to use 'science' to decide such questions (ibid.); the continuing interest in transfer (in the guise of exposure, input, etc.) suggests that this observation remains relevant (cf also Walkerdine 1984:169). Indeed, cognitive theory has separated practice still more decisively from the learning it is designed to promote.

5.2.4 Extensive reading at school

At the same time, approaches to school reading in English as a second language are the result of a great variety of sometimes conflicting concerns and traditions of classroom practice, in some cases imported directly from mother-tongue teaching (cf Brumfit 1977; some of the more important are summarized in Appendix 2). The introduction of more 'scientific' methods has inevitably occurred against the background of these less explicit assumptions.

In contexts where English influence has been strongest, they have tended to reproduce the cultural certainties of the grammar school tradition. Extensive reading schemes have largely been developed in settings of this kind, where English missionaries and schoolmasters have sought to carry not just the language but also the benefits of English literary and cultural values to indigenous populations. Thus, though it may be, as Alan Davies claims, that the emphasis in such schemes on literary works is a result of the difficulty of producing specially written material, and the ability (as he sees it) of plot and character to survive simplification (Davies 1979:128-9), it also reflects the assumptions of English teachers who were themselves products of a humanist education. Vincent refers to the

> long and honourable tradition of seeing an appreciation of literature as the pinnacle of foreign-language achievement, intensified in the case of English by the fact that its literature is widely considered the greatest achievement of the English-speaking peoples.
>
> (Vincent 1986:209)

And, we might add, sustained by a belief that the English language is "the richest of all languages" (West 1926:108).

From this point of view, contact with the English literary canon could only be beneficial for non-western readers and their cultures. With respect to colonial Africa, Bright and McGregor express the hope that "exposure to English literature will help the development of literature in languages that so far have mainly oral traditions" (Bright and McGregor 1970:53). As in Bell's Madras system, their emphasis is on channelling the uncivilized forces around them:

> Literature ... disciplines, controls and satisfies the emotions so that instead of frustration we feel release. The experience of taking part in the process of creative imagining, the experience of order, shape and discipline pass into life and give it meaning.
>
> (ibid.:53-4)[7]

(It is implicit that life without English literature lacks these qualities.)[8] Although this confidence has dissipated, the western canon often remains significant in the school curriculums of ex-colonies, while its relevance becomes ever harder to justify (cf Appendix 2 (g)).

The residue of such assumptions is also apparent in the nature and aims of reading programmes, as reflected in the most commonly adopted notions of grading (of material) and progress (of learners). At least three possible continua can be identified: (i) from elementary to advanced language (chiefly lexis, as measured by word-count); (ii) from simplified readers to 'real', unabridged books; (iii) from easy fiction to literature (Grant 1975; Brumfit 1984:79). In effect, the appearance of smooth, linear progress from stage to stage masks a discontinuity between elementary levels, at which texts (in narrative form) are designed to exemplify the language, and higher levels that introduce readers to literary novels, as opposed to linguistically or functionally complex material of other kinds.

The willingness to project those norms held to define authentic reading behaviour and experience for 'us' on to other contexts and practices clearly needs careful attention, especially since many literate westerners may not share them. However, the packaging of materials for mass consumption, and the broadly equivalent premises of behaviourist and cognitive theories of second language learning, have combined to promote a notion of reading as exposure to language which puts greatest emphasis simply on speed and quantity (cf below). In Hong Kong, for example, where the colonial culture is perceived as largely irrelevant to local concerns, justification for extensive reading is based on its utility as a language learning technology in this sense; grammar school assumptions about reading have been superseded by those of the cognitive production line. Neither, however, has encouraged the development of a better defined reading pedagogy or greater interest in local norms and practices.

5.2.5 Pedagogic approaches to extensive reading

The effects of these disparate influences are manifest in the pedagogic treatment of extensive reading more generally. In an influential textbook, Nuttall argues that reading instruction should reflect an appropriate range of texts and purposes (cf Nuttall op cit.:19), and seeks to show how extensive reading can help to develop "reading strategies which can only be trained by practice on longer texts", notably skimming, scanning, understanding relationships between parts of texts, establishing the writer's point of view, etc. (ibid.:23), complementing those developed in intensive work. However, her subsequent discussion tends to imply that 'intensive' and 'extensive' distinguish kinds

of reading purpose (one functional, the other pleasurable), and the practical concern gives way to an emphasis on the latter, the supposedly addictive "attractions of reading" (ibid.:171). It is in these terms that she describes an extensive reading programme (op. cit.:ch12), the object of which is no longer to practise specific skills but to instil the reading habit and the pleasure it both requires and promotes, an appetite sustained by simplified readers that in fact allow little variety either of reading style or purpose. Ultimately Nuttall's approach seems to have more to do with the logic of 'exposure' than with developing effective reading (cf §5.3.4).

Unlike Nuttall's 'good reader' (ibid.:168), (where 'good' clearly has overtones of approbation), effective readers are not judged in relation to any particular type of material, habit or mode of reading, but to the accomplishment of specific purposes determined by the needs of the situation. The consequences of neglecting purpose are emphasized by Cooper: "If readers do not know what they are reading for, then they are more likely to try to understand everything; and unpractised readers tend to do this word by word" (Cooper 1984:134).[9] Some writers have tried to link pleasure reading with skilled, purposeful activity. For example, Munby sees the need to develop "the habit ... of reading for pleasure, which involves the ability to read quickly" (Munby 1968:143), and then identifies this with the skimming and scanning skills necessary for reference work (ibid.). Yet avid pleasure reading has little to do with the flexible use of texts for practical ends. Nor is it necessarily suited to the literary reading it superficially resembles, since this requires a response to the text as discourse (cf Brumfit 1986:187; Pugh 1978:55), to which emphasis on speed and quantity is antithetical (cf Donaldson 1978; quoted below, §5.3.5.3). Moreover, however comprehensible, simplified text is unlikely to provide adequate examples of such discourse (cf Kress 1982:6).

In contrast, Hedge (1985) stresses the value of extensive reading for making learners think about how they read, and suggests ways in which it could help them to integrate learnt strategies into an ability to handle texts appropriately. Although this does not remove the limitations of the material itself, and demands some competence from the teacher, the aim of equipping learners to improve their own performance at least allows scope for consideration of relevant skills, and is pedagogically more justifiable than the belief that, given sufficient exposure, improvements will take care of themselves (cf below).

While emphasis on purpose and appropriate skills is necessary, however, it will be argued that it is equally important to establish that reading has a meaning for those who engage in it, and connects with familiar activities, beliefs, modes of practice, etc. (cf §4.4.3 above). Successful readers approach text as coherent discourse; however, coherence is not simply established by intrinsic linguistic properties, or features in the readers' processing systems, etc. (hence only in the course of reading), but by the prior expectation of its having a sense that is potentially intelligible and worth 'making'. This, in turn, depends on the reader's perception of the text as belonging to a genre and to a

recognizable form of social practice, and therefore on experience with the uses and values associated with other texts and practices in a given setting, not only at school, but at home, among peers and in the wider community. These ideas, which, in part, formed the rationale for the Hong Kong study, will be discussed, with relevant findings, in chapter 8. The following sections turn to consider the unmediated, technological view more closely.

5.3 Features of the unmediated picture

5.3.1 Literacy learning as 'transfer of training'

Although few would suggest that reading ability is innate (cf §5.1.1), the development of literacy, as of language in general, is often assumed to reflect a psychological predisposition. According to Downing:

> Literacy is learned only once in an individual's lifetime, just as oracy is learned once only. When the skills of oracy and literacy have been learned, they are readily transferable to other languages, despite surface differences.
>
> (Downing 1987:25)

He roots this ability in "universal psychological process[es] of literacy acquisition" which "exist beneath the surface of a diversity of literate cultures and ... as potentials in preliterate people" (ibid.); which must, therefore, be considered an aspect of the "laws" of learning in general and of the "principles" of language in particular (ibid.:27).[10] Likewise, Goodman supposes that psycholinguistic universals ensure the absence of significant variation in reading or learning to read in any language (Goodman 1970; 1976). For Eisterhold, the acquisition of second language literacy specifically involves the transfer of mental abilities necessary to the use of first language knowledge in general (Eisterhold 1990:94-5). According to the 'Linguistic Interdependence' (or 'Common Underlying Proficiency') Hypothesis, a reader will use his existing skills to read a second language, with almost no specific instruction required (Cummins 1979). Empirical evidence that transfer of this kind does occur, irrespective of the nature of the languages or scripts concerned is discussed by Akinnaso (1993:270; cf reviews of these issues by Alderson 1984; Bernhardt and Kamil 1995). However, it is not presented in relation to the use or understanding of literate activities, but as a psycholinguistic phenomenon.

Despite allusions to psycholinguistic 'laws', etc., there is little to distinguish these from earlier accounts that represent reading and writing as specialized forms of adaptive behaviour, readily transferable between languages. Downing's reference to ease of transfer recalls Michael West's view that, for learners who can already read in their mother tongue, second language reading will require no extra mental activity: "All [they have] to do is to transfer that skill to a new set of symbols" (West

1960:19; cf §1.1); this was one reason why he regarded a reading syllabus as especially suitable for Bengali learners of English. Similarly, while Coady's 'psycholinguistic' model of the second language reader acknowledges that many students read only poorly in their first language, and that certain necessary strategies may be language-specific, it assumes that the "mechanical" parts of reading ability will transfer automatically (Coady 1979:11-12). In each case, the assumed transparency of the code makes its sole function that of providing visual access to 'the language'; one which naturally accords with the standard 'exemplificatory' use of text in second language teaching (cf Davies 1979:134; and Appendix 2). The implication of such work is that second language reading will be most successful if it is learnt first in the mother tongue. This formed the basis for the literacy project in Nigeria described by Akinnaso (op. cit.). However, as argued, it detaches reading from the contexts in which it occurs and the purposes, etc. with which it is associated.

5.3.1.1 The most direct practice

Thorndike's original model for 'transfer of training' was intended to refute what was seen as unfounded confidence that studying Latin trained pupils to think.[11] Instead, he claimed with Woodworth to have shown that "a change in one [mental] function alters any other only in so far as the two functions have as factors identical elements" (Thorndike 1914:269) - although the nature of these elements remained a matter of conjecture (ibid.). This is the basis of the idea that 'we learn to read by reading',[12] for learning will be most successful under the condition of identity between training and target behaviour. It was adopted in this sense by West: "The best practice is the most 'direct' .... The most direct practice in acquiring a reading vocabulary is the recognition and interpretation of words in the actual process of reading" (1926:270; cf 1955:12): this will ensure quick progress, efficient use of learners' time, and maximum utility. Conversely, indirect learning, such as the study of vocabulary lists, could be seen to involve needless "loss of effort" (West 1926:256; Wodinsky and Nation (1988) reach the same conclusion).

This utilitarian rationale informed the materials and methods of West's Bengal programme; not, indeed, with respect to its contents, which were designed simply to encourage young learners to read,[13] but in terms of its curricular goals, conceived in relation to the supposed needs of the population as a whole. But, as in psychometric approaches to education generally, the potentially enlightened prospect of equal opportunities held out by these new rational methods, and West's commitment to "the acquisition of [reading ability] ... for <u>all</u> in the short time which is available to all" (West 1926:308; original emphasis), was undermined by the assumption that the normal distribution was an accurate picture of the actual distribution of ability in society, with the elite in place at the top. West's view of the imagined future needs of the 'average Bengali' was conditioned by his assumption that the social positions of 'average Bengalis', for which education should help to fit them, reflected their natural abilities (cf Burt, reported in Wooldridge op. cit.:204).

5.3.1.2 Transfer as a cognitive principle

According to Freedle and Carroll:

> Language competence develops only as the individual is exposed, over long periods of time, to increasingly difficult materials; somehow the individual is able to use this material as a basis for increasing not only his general knowledge and understanding, but also his basic linguistic competence. To a degree, the material itself can teach him.
>
> (Freedle and Carroll 1972:360; emphasis added)

West had made a similar point: "When a child is learning to read a language, he reads and the reading book teaches him. Everything therefore depends on the book; the teacher is a mere master of ceremonies" (West 1955:14; original emphasis). But whereas West's approach identified learning with the development of discrete abilities directly associated with the activities practised, depiction of the learner as an 'information processor' assumes no such relation; learning is less a result of specific 'training' than of osmosis between mental processes when exposed to appropriate input.[14]

The focus therefore shifts from the sphere of perceived social need or utility to that of individual mental change, and the internal relation between (quantity of) input and the learner's psychological mechanisms, to which the characteristics of the actual practice involved are largely irrelevant. The grounds for choosing extensive reading rather than (for example) extensive listening will then simply be its practical convenience (cf Sticht 1972).[15] This is hard to reconcile with the view that reading involves constructive engagement with the text, or the contention that "the teaching of reading must do more than simply exercise reading in the target language" (Brumfit 1985:190). But, as noted, reading in this discourse-orientated sense is hardly at issue.

5.3.2 Reading as 'exposure to language'

The case for 'exposure' in second language learning can be made simply by reference to the observed correlation between amount learnt and time spent learning, as in Spolsky's 'exposure condition' (Spolsky 1989:211). Since the time spent in contact with a second language in formal contexts is vastly less than the thousands of hours spent acquiring a first (cf Lightbown 1990:90), reading extensively, like an immersion programme, can help to make up the difference in a realistic way. It also has the flexibility to fit any context, not merely those with trained personnel and resources: accessible material can be read individually outside the classroom. And, as Carol Chomsky observes, the language encountered is likely to be syntactically and lexically more complex than speech, giving the child who reads an advantage over one who does not (Chomsky 1972:23) - although, as will be suggested, this may have more to do with the 'literate' nature of parental language and pursuits than with direct acquisition from books.

However, the stronger implication of the cognitive approach is that exposure 'works' in consequence of an inherent property of the language learning mechanism, justifying attempts to show that extensive reading can function as a (technological) substitute for conventional teaching; not just as a condition of second language acquisition, but a 'trigger' for the language programme. Discussion of reading as exposure is dominated by attention to its linguistic products, i.e. linguistic knowledge, assumed to be a matter of syntax and vocabulary, or reading 'skills' viewed as internal subprocesses, rather than its potentially varied purposes, or its possible effects on learners' ability to assimilate features of second language discourse. Even when the apparent object is to improve reading skills, greater interest is generally taken in maximizing the visual encounter with language than in the nature of the reading, or the development of skills and strategies appropriate to the varieties of text concerned (cf comments on Nuttall, §5.2.5; also Robb and Susser below, §5.4.3). According to Criper, the object of a reading scheme is "to provide maximum exposure to the language. Whether this is achieved through comics or through Shakespeare depends on the reader's inclination" (Criper n.d.:8). Hafiz and Tudor assert that what is read is much less important than its quantity and the pleasure it arouses (Hafiz and Tudor 1989:9).[16] Even Carol Chomsky's reference to properties of the written language is exceptional.

5.3.3 Comprehensible input

At its most extreme, in Krashen's radically technologized vision, the nature of language learning is wholly determined by the design of the cognitive machine (cf, for example, Krashen 1982). The language faculty specifies a 'natural order' for the acquisition of language structures, again with emphasis on grammatical structures rather than (for example) communicative functions, features of discourse, or phonology. Acquisition is possible when the 'next' structure in the sequence (Krashen's 'i + 1') is encountered, except under conditions of stress, when it will be blocked by the learner's 'affective filter'. Stress, Krashen believes, is induced when the learner's attention is directed (unnaturally) at form rather than meaning, as in typical language classrooms, especially when dealing with difficult texts. Like Bradley (1913:191) he supposes, reasonably, that reading for meaning is best achieved with enjoyment; hence input must be interesting, naturalistic and comprehensible. Unreasonably, however, this is not merely offered as a useful piece of advice, but as a set of 'principles', namely: (i) acquisition is more important than learning; (ii) its necessary conditions are: comprehensible input containing i + 1, and a low affective filter "to allow the input 'in'" (Krashen 1982:33). Krashen adds: "This is equivalent to saying that comprehensible input and the strength of the filter are the true causes of second language acquisition" (ibid.; emphasis added).

The analyses by Gregg (1984) and McLaughlin (1987a) have left little doubt that, as a theory, this is seriously flawed, indeed, "incoherent to the point that it seems inappropriate to apply the word theory to it" (Gregg, op. cit.:94). In particular, as they note, it fails to make any testable predictions:

"simply to state that understanding helps acquisition is to make an uncontroversial observation, but one without any empirical content" (ibid.:89); nor is showing that selected phenomena are compatible with it the same as subjecting it to stringent test (McLaughlin, op. cit.:42; cf §5.4.2 below). As McLaughlin points out, there are no criteria for deciding what 'comprehensible input' is apart from the fact of its being comprehended, and no independent measure of the acquisition difficulty of different structures. Ultimately, since Krashen's theory can be made to fit almost any data, it is irrefutable, hence vacuous.

Despite this, several studies have set out, in this general framework, to demonstrate a link between exposure to language through reading and changes in learners' language competence or reading skills, with evidence of its transfer to related areas, especially writing and listening, regarded as a criterion for the success of the programmes concerned (see Elley and Mangubhai 1983; Hafiz and Tudor op. cit.; Robb and Susser 1989; Brusch 1991; and below, §5.4). Reviewing a wide range of such studies, Krashen notes that "free reading consistently relates to success in reading comprehension" (1988:269); and takes this to confirm the hypothesis that "genuine reading for meaning is far more valuable than workbook exercises - in fact, it is the source of 'skills': we learn to read by reading" (ibid.:287). Since, however, the activity to which he refers is reading only in the technological sense, without reference to who may be doing it, in what circumstances, what they may be reading, or why, this must be judged unhelpful indeed (cf note 12 above).

Yet Krashen has caught the mood of his time, setting out, in boiled down (indeed, highly comprehensible) form, a mechanistic account of unmediated cognitive change for a field already largely committed to the cognitive perspective and saturated with mechanistic explanations. At the same time, his rejection of classroom learning, associated with dull, unnatural "workbook exercises", learning by rote, etc. in favour of 'natural', 'genuine' spontaneous acquisition, the pleasures of reading for meaning, etc. creates the impression that he is only liberating the learner's real 'creativity' and self-sufficiency, from the meaningless strictures of pedagogic activity. This move belongs to a familiar (ultimately Rousseauan) tradition. But, in making it, Krashen excludes, without considering, the possibility that teaching and learning may also possess a constructive, dialogical dimension.[17]

The influence of his ideas has thus been out of all proportion to their merits. His terms crop up even where there is no obvious reference to the theory; for example, Criper states: "The learner requires language input that is comprehensible as a necessary condition for learning" (Criper n.d.:1), a "theoretical view" which naturally gives point to extensive reading (ibid.:4). According to Bamford: "Extensive reading may be one of the few ways to increase exposure to examples of language use for the purpose of language acquisition" (Bamford 1984:219). Through the naturalization of its rhetoric, Krahsen's hypothesis has acquired the status of fact, which then insidiously reappears as a 'proof' to

"mislead the unwary into thinking that questions have been answered and problems solved that in fact remain unanswered and unsolved" (Gregg, op. cit.:95; cf also Widdowson 1990:16ff).

In reality, far more is involved in language learning than 'exposure', or the sequential acquisition of grammatical structures. In relation to the first language, the child learns to have, to express and to redefine wants, intentions, meanings, etc. as a participant in varied forms of social exchange:

> Language is acquired not in the role of spectator but through use. Being 'exposed' to a flow of language is not nearly so important as using it in the midst of 'doing'. ... The child is not learning simply what to say but how, where, to whom, and under what circumstances. ... Its initial mastery can come only from participation in language as an instrument of communication.
>
> (Bruner 1990:70;73)

With respect to second language learning, 'exposure' alone will be less relevant than the kinds of activities and contexts in which it occurs. Reliance on private technological processes in place of attention to such matters must therefore be judged an evasion of pedagogic responsibilities (cf Widdowson 1979:171), which, whatever its shortcomings, West's curriculum was not.

5.3.4 'Infection with the reading bug'

There is much evidence of the power of reading to engage and entertain. Dolan, et al. note the pleasure and degree of absorption generated in English primary schools by provision of opportunities for private library reading, an activity that resulted in the most concentrated reading (or "continuous attention to print") that they observed (Dolan, et al. 1979:130), and a striking contrast to the fragmentary and purely functional uses of texts they encountered otherwise. They regret its disappearance in the secondary school, where syllabuses and teaching styles are generally less flexible (cf also Maxwell 1977:66). Morrow and Weinstein (1986) also report the success of a library reading project promoting non-instrumental voluntary reading at elementary level in the United States.

Nevertheless, it can hardly be assumed that the attractions of, or conditions for, such reading are universal, even among fully literate mother-tongue English speakers. As George Steiner has remarked: "Being bookmen ourselves, we tend to forget the extremely special locale and circumstances of our addiction" (Steiner 1972:187); forms of literate practice may well be valued differently in other communities, as in India, for example, where, even in literate families, children are not read to (Mason 1992:215). Yet exhortations to teachers to "infect pupils with the reading bug" (Bright and McGregor 1970:59), or to learners to "get hooked on books!" (Nuttall op. cit.:167, etc.), may mean that anyone who is not 'infected', etc. tends to be forgotten. They will therefore be especially unhelpful in contexts where learners, who may be highly literate relative to their local

community, experience no automatic wish to read when it is unnecessary, and do not share the English teacher's "capacity to prefer reading anything to not reading" (Nelson 1984:188; original emphasis), however orientated towards practical long-term benefits.[18]

Moreover, these exhortations reflect a concern with increasing the intake of language, etc., rather than with the value of the reading habit itself: it is a means by which the virtues of 'natural' exposure can be made available for classroom use. Learners addicted to 'ludic' reading (Nell's term; cf Nell 1986)[19] will be absorbed and relaxed, directing their attention to meaning rather than the analysis of linguistic form, and therefore, in Krashen's terms, at their most receptive to the input. The more avidly their eyes cover a page, the greater the amount of language to which they (or their learning mechanisms) can be exposed, as in Nuttall's "virtuous circle of the good reader" (Nuttall 1982:168; cf above). Intervention is needed only to select the materials and set the reading in motion (Bamford 1984:221). Thenceforth the teacher's role is reduced to 'master of ceremonies', as West envisaged, absolved from more onerous decisions about particular linguistic or textual skills.

Indeed, since pleasure reading is considered self-justifying, there may seem little need to give more detailed attention to its purposes and skills, or the functions of written language (cf Stubbs 1980:97). Absence of prescription can seem desirable because it respects its true nature. 'Good readers' in this sense just are those who possess the reading habit, which, by definition, escapes (or resists) pedagogic control. According to Nell: "pleasure reading is playful; it is free activity standing outside ordinary life; it absorbs the player completely, is unproductive ..." (Nell op. cit.:2); it fills interstices between lessons and the free space of the learner's everyday life; indeed, it contributes to the definition of this free space (see Appendix 2). Closer pedagogic control would transform it into the very thing against which it rebels, and so threaten the growth of genuine enthusiasm for books (cf Brumfit 1984:84).

But however true this may be, the use of reading to provide exposure to language is in fact largely unconcerned with its wider functions, or the properties of text as coherent discourse. The implied model of reading is, as it was for West, just a translation of the linear componential properties of the printed page itself, a kind of writing in reverse, with the eye now thought of as a scanning device, decomposing the text into its words and structures, and passing on the new ones to be stored in an internal dictionary and grammar book. And in this connection, emphasis on speed is justified, not as appropriate to a particular kind of text or purpose, but by reference to the supposedly componential nature of the reading process itself.

5.3.5 Reading speed and 'automaticity'

5.3.5.1 Speeding the components of reading

Since texts read too slowly tend to be comprehended less well (Beck 1981:75), even fluent readers are likely to find themselves at initial disadvantage in a foreign language, slowed by a more conscious engagement with unfamiliar visual and orthographic features (cf McLaughlin 1987b:61). So it may seem, as Eskey and Grabe assert, that "good readers, by definition, read fast" (Eskey and Grabe 1988:233). However, discussion on this point is again caught in the categorical confusion between the mechanisms of perception and the nature of comprehension, between the eye's encounter with the visible elements of the text and their 'reading' (cf §4.3.3.1). In particular, the assumption of a processing continuum from the written sign to internal comprehension tends to confuse the 'automaticity' of these components with that of reading and understanding itself.

In behaviourist accounts, each sign was read and combined in linear sequence; thus West emphasized the necessity of speeding up the mechanical combination of components - graphic symbols into words, words into sentences, etc. (cf West 1932:70; cf Valentin's calculation, chapter 4 note 23). Since this process simply mirrored the linear, additive properties of the text, it would obviously improve with the increasing speed of the eye along the line. His attention to 'question density', with lengthening intervals between questions on the text, was therefore designed to promote faster reading (1926:193ff; cf Pugh 1978:20), and the test he devised to measure Bengali learners' English reading was a timed underlining exercise that deliberately sought to exclude reasoning, puzzles, memory, prior knowledge, unfamiliar vocabulary, chance or other extraneous sources of error (West 1926:176-7). Once automated, West observed, reading became a skill of a different order, "as if the Walking Class suddenly rode away on bicycles" (West 1955:10-11; cf 1926:196). Fries, as mentioned, supposed that successful reading required the development of "high-speed recognition responses" to major spelling patterns below the threshold of attention, "leaving only the cumulative comprehension of meaning" (Fries 1962:xvi). Practice was necessary to automate the habit of seeing and responding to the graphic shapes, where linear sequence substituted for the temporal sequence of speech (ibid.:120).[20]

Samuels and collaborators, approaching reading from a cognitive perspective, also emphasize the usefulness of extensive practice (cf for example, Samuels and Eisenberg 1979:63). And, like that of the behaviourists', its object is to help learners make conscious processes habitual, enabling them to devote increasing attention to a text's meaning and the development of more flexible, task-dependent strategies (cf Samuels and Kamil 1984:204-5). For them, however, progress is a matter of the increasingly automatic integration of discrete mental processes or 'subskills' (cf LaBerge and Samuels 1974; Samuels and Eisenberg 1979). This progress towards 'automaticity' is held to be marked by discontinuities involving the internal 'restructuring' of the processes concerned

(McLaughlin 1987b:67-8), and to depend on the kinds of task and 'knowledge' involved (cf Ellis 1985:237ff). Yet competent reading is still assumed to require the fast combination of its putative components: speeding them up, like speeding the single frames of a film, will enable the reader ultimately to 'look through' the graphic signs to the meaning they encode (cf §4.3.3.1).

5.3.5.2 Reading speed and understanding

While, undoubtedly, activities designed to improve word recognition will be useful for beginning readers in first or second languages, it is wrong, as argued previously, to suppose that skilled reading is just this fast, subconscious integration of the processes leading from text to mental representation. The two are incompatible: word meaning is not a syntactic composition of letters; nor do the processes of perception 'add up' to understanding.[21] In reality, just as perception of the film as continuous is a condition of seeing it as film at all, so the ability to read holistically is a necessary condition of any effective use of text, as constituted in a modern print culture.

This clearly does not entail, as assumed, for example, by Perfetti's model, that "gains in the speed of word identification should lead to gains in comprehension" (Perfetti 1986:29). Indeed, Oakhill and Garnham report that attempts to improve comprehension among young first language readers by training them to achieve faster word-recognition did not do so: increased speed was not matched by improvements in comprehension. As they suggest, "it may be precisely <u>because</u> decoding is such a basic part of reading that children who read more decode faster" (Oakhill and Garnham 1988:125; original emphasis), especially since such children usually have larger vocabularies and decode more accurately. Beck (op. cit.) suggests that it is generally children with well-developed word recognition who read more, formally and informally, and this in turn extends their advantage over those who have difficulty with the basic skills. (This was observed in the Hong Kong survey; cf chapter 8; and Appendix 6, Table 11.)

Yuill and Oakhill (1991) found that poor comprehenders (as measured by an ability to answer questions on texts) were less skilful in handling the larger aspects of written discourse, or using devices such as anaphora or logical connectives; they also tended to be less critical of their own performance. These researchers attribute such problems to the learners' failure to construct adequate mental models of the texts. However, in the light of earlier discussion, rather than point to an internal deficit of this kind, it will be more appropriate to examine their familiarity with given tasks and genres of extended written discourse, including socially acquired expectations of what kinds of sense may be 'there' to be made.

5.3.5.3 Reading speed and varieties of text

Carried over into school contexts, the confusion between speed and 'automaticity' has undesirable consequences, especially when the emphasis is on 'exposure', for which speed is instrumental. For

while all normally competent reading is holistic, by no means all will be fast. A minimum speed may be essential for any continuous engagement with text, given normal constraints on memory and concentration. But, in a culture where literacy enters and shapes every aspect of life from the institutional to the intimate, texts and purposes will be so diverse that even a minimally competent reader will need to operate appropriately with a wide variety of forms, to which, in many cases, speed will be irrelevant. As Wright observes, "one of the hallmarks of good readers is not that they are always fast, but that their reading speed is flexible" (Wright 1968:276; White 1980:88); Donaldson too cautions against emphasizing speed at an early stage since "speed and reflective thought are antithetical at any age" (Donaldson op. cit.:97-8). It is therefore pedagogically important to promote familiarity with the greatest diversity of texts and tasks appropriate to learners' needs and interests, and defined in terms of the specific, socially understood reading activities to be developed, rather than the supposed stages in the learner's mental progress towards 'competence'.

The following section examines three studies of extensive reading which, in different ways, reveal the limitations of the 'exposure'-orientated approach.

5.4 Empirical studies

5.4.1 Testing the effects of a 'book flood'

The notions of transfer and exposure discussed here provided the stimulus to the 'book flood' project conducted by Elley and Mangubhai with nine- to eleven-year-olds at rural schools in Fiji. In these poorly resourced circumstances, it was also relevant to find a cheap and effective teaching programme that would need only limited teacher competence. The pupils were assigned to one of two teaching methods using "high-interest" story books: either the 'Shared Book Experience', which involved teacher-pupil interaction, and activities designed to enhance interest; or the 'Silent Reading Method', which emphasized reading for its own sake, without other exercises. They were matched against a control group which continued to use the local syllabus, in which reading was limited and highly controlled (Elley and Mangubhai 1983:55).

These experimenters aimed to reduce the effect of differences between school and real-world language environments, on the grounds that a second language is learnt best in naturalistic contexts (ibid.:54). Such differences, they argued, are most marked in relation to:

i) strength of motivation
ii) emphasis on form as opposed to meaning
iii) amount of exposure to language
iv) type of exposure
v) quality of models available

(Point (iv) refers to the difference between artificially sequenced school language, and the more or less unstructured learning of the mother tongue, which, the authors maintain, is made possible by children's use of redundancy in the language around them (ibid.:55); this led them to reject grading of materials. Point (v) refers to the difference between the language of the local English teachers, and presumably error-free models for the mother tongue.)

They hypothesized that, by reducing the effect of these differences, "repeated exposure to high-interest illustrated story-books in the target language" would result in gains in speed of learning (ibid.:54), citing results from their own earlier study showing that reading standards correlated with access to books: "Schools with large libraries produced good readers, schools without libraries did not" (ibid.:56; cf discussion in chapter 8). Specifically, they wanted to know whether (i) experimental groups would out-perform controls on a series of tests of reading comprehension, listening and writing, etc.; and (ii) whether there would be any difference between the two methods.

After eight months, "book flood" groups scored significantly higher than controls on reading comprehension and structural tests; the authors estimate the improvement to be comparable to 15 months of the regular syllabus (ibid.:61). The upper age group had also made significant gains on the listening test, which had been predicted on the (Thorndikean) assumption that extensive reading would favour receptive skills in the first instance (ibid.:57). By contrast, differences in written compositions were found to be slight (ibid.:62; cf the findings of Hafiz and Tudor, below). This advantage was maintained after a second year, and had now been transferred to productive skills; and apparently to mathematics, general studies and Fijian language also. With respect to method, both treatment groups made roughly comparable gains, although the Shared Book Experience demanded more from the teachers, which some evidently could not provide.

It is a valuable aspect of this work that its authors continued their project long enough for its educational consequences to be detectable in an ordinary school setting, and relate their conclusions to the needs of this setting, without overt emphasis on any theory of how extensive reading 'works', or claiming to have 'confirmed' their hypothesis that second languages are best learnt naturalistically (cf the following section). Their findings, in particular the maintenance of improvement and its influence on other subjects, indicate the considerable success of the programmes concerned, as well as how much can be achieved with cheap, attractive reading material in environments where resources are scarce.

Nevertheless, the study is handicapped by its authors' interest in 'reading as exposure', as a stimulus for internal changes in language knowledge and skills, for which test results provide operational definition. This leads them to neglect the reading itself as an activity in context, and the specific ways in which it might have helped these learners to develop other abilities. Instead, they conclude:

> The critical factors which brought about the substantial improvements were related to greater and repeated exposure to print in high-interest contexts, in conditions where pupils were striving for meaning, and receiving sufficient support to achieve it regularly.
>
> (ibid.:66)

Strictly speaking, since both experimental groups received considerable encouragement to read, and control groups no more than usual (i.e. very little), such results suggest only that the reading programmes were better than nothing, and so are chiefly an indication of the lack of resources in ordinary schools. They do not constitute unequivocal evidence in favour of these particular treatments, or of extensive reading as opposed to some other potentially stimulating activity. If the comparison is regarded as essentially one between a colourful programme on the one hand and no programme on the other, the significance of the success achieved, and the extent to which it reflects on reading itself, may perhaps be kept in perspective.

5.4.2 Corroborating the Input Hypothesis

A second study illustrates how significance testing can provide a rhetoric in which to claim 'support' for the technological approach to reading as exposure, creating the impression of experimental rigour, and of understanding fortified by the accumulation of empirical results, no matter how ill-founded the theoretical assumptions may be. In a 12-week reading programme "inspired by Krashen's Input Hypothesis" (Hafiz and Tudor 1989:4), Hafiz and Tudor used simplified readers with a class of young Pakistani ESL learners to investigate the hypothesis that extensive reading could lead to improvements in second language proficiency. In particular, they sought to discover how far input through extensive reading, by acting directly on general language competence, as predicted by Krashen's theory, would bring about "skill enhancement in other mediums or in terms of active use of the second language" (ibid.:5), for which Elley and Mangubhai had already produced some evidence (cf above). Unlike Elley and Mangubhai, however, they were ultimately less interested in meeting the needs of their particular context, than in showing experimentally the validity of the theoretical approach itself.

On post-testing, the experimental group achieved statistically significant improvements on their pre-test scores on all parts of a battery of reading and writing tests, while, with some exceptions, the two control groups did not. For Hafiz and Tudor this therefore

> lend[s] support to Krashen's Input Hypothesis, indicating that extensive L2 input in a tension-free environment can contribute significantly to the enhancement of learners' language skills, both receptive and productive.
>
> (Hafiz and Tudor, op. cit.:10)

For several reasons, however, it would be incautious to accept this conclusion without closer examination. First, since the participants had devoted an average of 42 extra hours to English, not counting the reading they did at home (ibid.:7), whereas the control groups had merely followed their normal lessons, the difference in outcome would hardly seem surprising. Moreover, despite reference to the beneficial effects of extensive reading being observable "in the long run", the authors are disposed to view these findings after 12 weeks as evidence of the same order as those of Elley and Mangubhai after two years (as noted, Elley and Mangubhai had only found significant improvement in productive skills after the second year of their programme). Such eagerness to claim success suggests that this programme was not so much intended to test a hypothesis as to illustrate a conclusion to which its designers were already fully committed. While, no doubt, this increased its value for the group that participated in it, it negates any claim to have corroborated 'principles' of language learning.

However, problems of this kind are more easily disregarded if the apparently self-sufficient logic of the significance test procedure is held to guarantee a scientific outcome. Notwithstanding the absence of the 'testable and falsifiable universal laws and initial conditions' that Popper (1979:193) sets as a precondition of scientific explanation, an experimental result achieving statistical significance may seem (especially to those already persuaded) a persuasive indication of a genuinely 'significant' finding (the word is used ambiguously in the quotation above). This can occur, as here, regardless of doubts about the experimental design and sampling procedure, and no matter how lacking in specific predictive power the theory in question may be.

Yet there is a crucial difference, which Hafiz and Tudor overlook, between the logic of scientific reasoning and that of the t-test and its extensions. The latter are applied in order to decide whether or not to accept a given hypothesis; but such a decision implies nothing with respect to the truth of the theory from which the hypothesis is derived, and certainly cannot justify any claim to have 'confirmed' it. The results Hafiz and Tudor obtained may well be interpretable in terms of Krashen's Input Hypothesis, but they lend it no more support than to any other theory (plausible or implausible) with which they might be consistent. Scientific theories are not strengthened by decisions of the sort determined by significance testing, or by observing a non-zero difference in the predicted direction between experimental and control conditions, certainly not if the prediction in question is little more than an everyday likelihood (for example, that learners will learn better when they are relaxed and interested). Moreover, as Popper makes clear, it is never enough to seek 'confirmation'; a theory needs to be able to make novel predictions which can be subjected to exact scrutiny; confidence in it will be more adequately justified the longer it survives the closest scrutiny possible. This presupposes a theory capable of refutation: since Krashen's is not such a theory, Hafiz and Tudor could not have lent it the slightest support, whatever their method. Unfortunately, in the rhetoric of research

writing, 'achieving significance' can seem to play a role equivalent to that of overcoming the much more demanding observational hurdles usual in physical science; and a worthless theory can have its position consolidated by the announcement of such 'confirmation'.

A more circumspect report of the same findings (Tudor and Hafiz 1989) describes a closer analysis of the free writing component, on which the largest gains were recorded, revealing that there was a marked a tendency towards the use of simpler and more accurate language in the post-test (op. cit.:173-4). It may be reasonable to suppose that the students adopted the prose of the simplified readers as a model for their own writing; but, if this is so, nothing would seem to be added by invoking the notion of transfer between mental abilities. Instead, it would be more illuminating to consider the students' uses of these models in relation to the development of their written discourse, to which the assimilation of others' words, styles and genres, etc. is central (cf Lensmire and Beals 1994).

5.4.3 The transfer of reading skills

An experiment conducted by Robb and Susser with Japanese university students further illustrates the weakness of this kind of approach. In particular, it makes clear the limitations of 'empirical' conclusions about reading drawn from changes in test scores, when these lack both rigour and theoretical support. These experimenters sought to show that a programme of class-time reading from the SRA package, plus a minimum 500 pages of reading at home from a library of American teenage fiction, was more successful than the standard skills course, as measured by performance on an array of reading skills tests. Indeed, their exclusive concern seems to have been with how efficiently this particular 'product' could be turned out (cf the criticisms of de Castell et al. §5.2.3 above).

Post-test results indicated that, in all areas where the authors had predicted improvements (understanding the main idea, getting facts, making inferences, guessing vocabulary, reading speed) the 'extensive' groups did either as well as, or better than, the regular 'skills' groups. However, no particular rationale is offered for the choice of skills on which their performances were compared; for example, there is no indication why reading extensively should lead to improvements in 'making inferences', or independent evidence that the students normally found this difficult in English or their mother tongue. Instead, it seems that the researchers were less interested in discovering that the two treatments were equivalent in this respect (no proof that either was necessarily effective), than in showing globally that "extensive reading was superior to a skills approach" (ibid.:245). Their determination to do so is underlined by the use of F values to signal both their degree of certainty, and as an estimate of the importance of particular results, and by a readiness to accept any evidence, short of results favouring the 'skills' group, as adequately confirming their hypotheses (more

surprising given their lack of control over the content of the other English courses their students were following, and that the SRA materials are themselves designed to develop particular reading skills).

Once again it is clear that 'technological' concern with input gives little insight into the students' reading, or the suitability of an extensive reading programme for achieving particular ends. Robb and Susser speculate that their success could simply have been a consequence of the many extra hours the students spent reading at home (ibid.:246), prompted by the "pleasure" they derived from it (not indicated by a questionnaire of their opinions; ibid.:247); but, in this case, it would have been helpful to have some indication of the usual nature and extent of their out-of-class reading habits. No mention is made of whether students diverted to the new type of activity from the word by word 'translation-reading' (*yakudoku*) normally adopted in Japanese foreign language study (Hino 1992), especially when reading unsupervised, or of the suitability of the material chosen. Nor is it reported how the home reading was done, or what information about its quality was gained from the students' written summaries. In fact, assumptions about leisure reading seem to have been imported as self-evident from the researchers' own background, while the pedagogic ends to which it was directed were insufficiently detailed or tested.

Like that of Hafiz and Tudor, this experiment illustrates how prior certainty about a particular outcome, bolstered by a spurious learning theory, can make empirical 'proof' of it largely circular. Such exercises seem designed to legitimate existing pedagogic preferences rather than contribute to an understanding of the role of reading in language learning; a need perhaps felt more keenly where (as in these examples) no automatic assumptions can be made about the shared cultural value of reading in English (cf the case of Hong Kong, §8.2 below).

5.4.4 Discussion

The pedagogic activities in these studies are not clearly distinguished from experimental treatments. With suitable conditions apparently ensured by their statistical methodology, they turn the classroom (or equivalent) into a laboratory in which to investigate learning processes as if they were autonomous, in order to define a 'scientific' (i.e. 'technological', acontextual) pedagogy. Their preoccupation is therefore with unmediated cognitive effects (the conversion of 'input' into 'intake', etc.), and, especially, the automatic transfer between abstract competences. As Tudor and Hafiz remark, "improvement in reading skills ... while not without interest, is clearly less interesting in language learning terms than an improvement in writing, a productive skill" (Tudor and Hafiz 1989:169). Since reading is simply a means to language learning ends, little attention is paid to the nature or circumstances of the reading actually involved, to whether it has a role in the subjects' lives outside the experiment, or to the particular kinds of learning it might make possible. The possibility

that use of the written medium may in itself have consequences for the reconfiguration or extension of mental capacities, or exert pressure for cognitive change, is not considered. Moreover, as noted, exposure to 'the language' as a neutral entity, etc., is conceived of as an encounter between the lone linguistic processor and the printed page; it involves no reference to the (social) function, status or meanings of specific written discourses (cf discussion of Mason, §8.1.3 below).

5.5 Conclusions

5.5.1 The coherence of the technological picture

As this discussion has tried to show, the different aspects of the 'autonomous' picture at issue here are mutually sustaining. The idea of reading as input to an language learning mechanism is only possible on the basis of an assumed equivalence between graphic and phonic symbol systems and their transparency in processing, and opposition between psychological facts and their context. Yet, as argued, far from there being, on the one hand, prior learning principles, and, on the other, instrumental methods to reveal them, or prior speech units and symbols to embody them, objects and methods produce and confirm each other within a network of social and epistemological assumptions, aspects of which have been discussed in earlier chapters.

With regard to its educational implications, it has been argued that the very notion of pedagogy as 'science' emerged in conjunction with that of the school as a machine for regulating colonial and domestic populations. The subsequent internalization of the machine in the cognitive apparatus of the 'normal' learner has made it possible to present its normative, regulatory function as a matter of psychological fact (for Krashen, the true principles of learning to be rescued from distorting beliefs and practices), and see school itself as the neutral laboratory setting where such methods are applied. In consequence, as Walkerdine argues, ideas of 'the child' and its development through a universal sequence of (for example, Piagetian) stages, though historically created, have been naturalized as the proper objects of psychological and educational interest, so that western schooling and its practices are now "totally saturated with the notion of a normalized sequence of child development" (Walkerdine 1984:155). This is institutionalized in the school curriculum, and given physical form in teaching materials and classroom organization, by which actual children and their activities are brought to conform to it, and led towards full rationality (that is, precisely, the condition of autonomous text, the school's natural medium). In relation to models of reading and language learning, the sequence is embodied in a linear grading of materials and levels leading towards 'possession' of the 'the language', that is, its standard form, once again epitomized in the condition of autonomous text.

5.5.2 Reading in context

In place of a belief that cognitive change occurs as an unmediated consequence of 'exposure', a contextual view will hold that learners assimilate specific kinds of socially learnt and valued activity, extending the scope of their understanding and diversifying the range of the intellectual, linguistic, etc. operations of which they are capable. In the Vai literacy study, for example, Scribner and Cole detected the consequences of specific forms of literate practice most readily in the particular skills they cultivated, for example in incremental memory (Qur'anic literacy), or in talking about Vai letters (Vai literacy) (Scribner and Cole 1981:245; cf §6.2.6), suggesting that learning is closely related to the kinds of symbolic activities to which learners are introduced. Unlike attempts to show that 'we learn to read by reading', etc. in which attention was focused on the psychological process, this study sought evidence of transfer in the sphere of action, in the application of learnt skills to novel tasks. As argued in chapter 4, however, a contextual approach will assume that knowledge and understanding, including that concerned in the use of language and literacy, cannot stand apart from the historical conditions in which particular practices come to exist, and so relate to the roles and status of these practices in a given community.

This will therefore entail a fully pedagogic activity, involving decisions about the kinds of reading suited to the existing or projected development of learners in a given context. In both first and second languages, emphasis will be required on enabling them to become familiar with the literate practices and the forms of discourse through which a given community functions and creates itself, "through scaffolded and supported interaction with people who have already mastered the Discourse" (Gee 1992:33; cf chapter 1 note 4). Gee suggests that Krashen's claims about second language acquisition could be made more coherently with respect to 'Discourses' (ibid.). In fact, however, this view differs radically from Krashen's, since it is orientated towards contexts of practice, and depends crucially on mediation in the external social world, including the activities of teaching and learning. And, as Wittgenstein argued, this requires, not an internal mechanism, but participation in a culture (Wittgenstein 1967:29). Learning to use and think 'through' graphic signs in a given cultural setting enables development, not so much by 'freeing' cognitive capacity as constructing it, and, as will be argued, not necessarily 'in the head', but on paper. These issues are taken up more fully in the following chapters.

6. THE IMPLICATIONS OF LITERACY

> Two or three generations of literature may do more to change thought than two or three thousand years of traditional life.
>
> (James Frazer: *The Golden Bough*, vol. 1, p.xii)

> Literacy is the universal catalyst ... . At some time or other almost every feature of the modern Western world has been linked closely to literacy.
>
> (Thomas 1992:19)

> Literacy is a matter of culture and ideology and ... people will only adopt it if they are sympathetic to, and see the relevance of, the particular culture and ideology that shape it.
>
> (Street 1984:195)

6.1 Introduction: the literacy debate

6.1.1 Introduction

The previous chapter offered a critique of unmediated approaches to the role of reading in second language learning, in relation to supposedly universal psychological characteristics of readers and learners. It attempted to show their connection both to mechanized views of learning developed in the context of mass education, and to an 'alphabetic' (technological) conception of the written sign. In order to develop a mediated, 'ideographic' alternative, which views the sign and its implications as products of specific sociocultural circumstances, the present chapter turns to consider more closely the study of literacy and forms of literate practice. As indicated in the Introduction, it is particularly work in this field that has helped to introduce a historical and cultural awareness into the explanation of human capacities to learn, perform and understand operations with symbolic systems, and, more specifically, made clear the importance of relating forms of reading activity to their contexts. The focus of this discussion is the debate that has surrounded attempts to define the 'consequences' of literacy, in particular the notion of literacy as a 'technology of the intellect', which has raised these issues most immediately.

6.1.2 Literacy as an agent of change

The association of the categories 'literate' and 'oral' (like 'advanced' and 'primitive') with the definition of kinds of culture and modes of experience has ensured a continuing interest in the implications of being (or becoming) literate, and debate about the nature of those implications and how to interpret them. This debate has been centrally preoccupied with two questions, which, to adapt Ruth Finnegan, may be stated as follows:

1 Does literacy have consequences for modes of thinking?

2 Do literates *ipso facto* think differently from non-literates?

(cf Finnegan 1973:112)

To know how to answer either question, it is necessary to be clear whether they are being asked about literate individuals, or literate societies; that is, whether they are to be answered in terms of the psychological changes registered in people who become literate, or in terms of the existence of literate forms of life, and literate institutions that have structural and behavioural consequences for the societies in which they exist. Both cases have received considerable research attention.

However, to treat 'literacy', in either case, as both the index against which development is plotted, and its explanatory principle involves drawing on the same evidence both to infer change and to prove it (cf Scribner and Cole 1981:6). Instead, a theory is required that relates literacy independently to changes in these areas; Olson criticizes earlier views, including his own, for failing to provide such a theory (1994:38); both Scribner and Cole (op. cit.) and Halverson (1992) find Goody's approach similarly lacking. It will be argued that these questions are only intelligible if it is recognized, as chapter 4 sought to show, that neither thought processes nor the context in which they occur can be understood in isolation, or treated as independently specifiable. In other words, rather than envisage the consequences of literate activity as acting on universal processes and competences, variously modified by local constraints, their cognitive implications should be regarded as themselves formed and situated in the context of particular practices (a conclusion to which Scribner and Cole are finally led by their analysis of Vai literacy; cf below, §6.2.6).

6.1.3 The lines of the 'literacy debate'

Following Thomas, we can distinguish two broad tendencies in the study of literacy, the first focused on its 'consequences', the second on its 'uses' (Thomas 1992:15). The term 'consequences' may, however, be unhelpful. Given the complexity of the changes associated with the appearance of literacy, at either individual or societal level, it would be hard, if not impossible, to determine its role in the emergence of specific social or psychological traits (after his original paper with Watt, Goody preferred the less determinist 'implications'). Nevertheless, there has been recurrent interest in theories advanced at a high level of generality that assign literacy a causal role in change of both kinds. On the other hand, the study of literate practices as a historical and anthropological project in specific settings has always tended to reveal their diversity, the complex patterning of their personal and institutional functions and degrees of individual involvement in them. The more detailed the study, the less tenable the broad, technological claims seem to become. Indeed, the popular belief that some literate practice or writing system can, by itself, extend the expressive and intellectual capacities of its users has proved notoriously hard to demonstrate.

However, until recently, at least, attempts to produce, on the one hand, a theory of its consequences and, on the other, detailed contextual descriptions of its uses have defined the two sides of a 'literacy debate'; and literacy studies have, to a great extent, been characterized by the issues in dispute between them. In part, its terms simply reflect the distinction between psychological and anthropological forms of explanation; and its course parallels the tendency of both disciplines, but particularly the latter, to show increasingly little interest in universalizing theories, cross-cultural generalizations and comparisons.

6.1.3.1 Focus on consequences

Studies of the first type are concerned with the effects of literacy, or certain of its media, viewed as independent variables with intrinsic properties, on the individuals or societies that acquire them. However specific a given context, it is ultimately taken to exemplify some aspect of those properties. This therefore includes McLuhan's sweeping exploration of the psychic effects of historical transitions between modes of literate expression (McLuhan 1962), and the seminal paper by Goody and Watt (1963); also Greenfield's cross-cultural comparison of the effects of literacy in disparate settings (Greenfield 1972), work by Havelock (for example, 1982), Ong (1982), Olson's 'essay-text' model of written language (cf chapter 3) and Eisenstein (1979, 1983) on the role of the printing press in the emergence of many of the forms of life and thought characteristic of early modern Europe. Strands common to many of these arguments are summarized in Appendix 1.

Because of its emphasis on the potential of literacy to alter the context in which it is adopted, this approach is sometimes referred to as 'technological', although the term is variously interpreted and the work in question makes different kinds of technological claim. It is particularly applied to the theory that literacy, or specific aspect of it, holds the key to understanding the transition to 'modernity' in human evolution, either historically, as the differentiation of modern man from his primitive ancestors, or in the contemporary world, as the bridge between 'primitive' and 'advanced' societies.

With regard to its sociocultural implications, Finnegan considers four versions of the technological theory of literacy, namely (from strongest to weakest):

1. The technology of communication is a single cause which determines the various phases of society;

2. It is one (important) cause among several;

3. It is an enabling factor, opening up various opportunities which may or may not be realised in any given society or period;

4. It influences some developments in society but not all.

(Finnegan 1988:38)

Few, she suggests, would wish to dispute the weakest of these propositions. However, proponents of the technological thesis often choose to imply (1), the more interesting possibility. She concedes that a strong theory of literacy has the ability to "jolt us out of our complacency" (ibid.:41); but it is easy, as she shows, to find exceptions to it (for example, the relationship between science and literacy in China and Japan, or the absence of a systematic study of history in (literate) India (ibid.:39; points also made by Gough 1968a; see below). Moreover, other evidence suggests that the development of such supposedly definitive aspects of 'literate' society as analytical attitudes, revolutionary movements and 'individualism' is possible (even if uncommon) without literacy (ibid.:40) (although, of course, this need not, in itself, falsify the hypothesis that literacy promotes them). For Finnegan, the weaker view (3), though less enticing or tidy, accords better with the evidence: "The medium in itself cannot give rise to social consequences - it must be used by people and developed through social institutions" (ibid.:41).

6.1.3.2 Focus on uses

In a reaction against 'technological' approaches, writers such as Finnegan (1973, 1988) and Street (1984) have questioned the validity of drawing a divide, whether cognitive or cultural, between orality and literacy. They argue that neither can be discussed sensibly in the abstract, without reference to the different kinds of societies and attitudes that have shaped them; study in specific contexts will uncover a great diversity of literate and oral practices, seldom mutually exclusive, and show the impossibility of framing universal statements about their 'pure' or intrinsic consequences. "It is not so much the technology that is significant, whether for secularization or for science, but the use that is made of it" (Finnegan 1988:153). It will therefore never be realistic to dissociate the facts of literate practice from its contents and purposes. Concerning 'biblical literacy', for example, commonly treated as a single factor in historical explanation, Hill points out that the variety of competing passages and views in circulation in seventeenth century England makes no unitary notion of it sustainable (Hill 1993).

According to Finnegan, research should therefore

> stress instead the specific historical circumstances in which literacy and orality have been variously deployed, and the <u>different</u> ways the various media of communication are used in different cultures and different historical periods.
>
> (Finnegan 1988:7, original emphasis)

There is now a burgeoning interest in detailed contextual work illuminating "how [literacy] comes to function, and what particular use is made of its potentials" (Thomas 1992:27) in a great variety of settings.[1]

Concentration on differences and idiosyncrasies may enable the researcher to arrive inductively at the description of "widely found patterns ... of human usages, interaction and expression" (Finnegan op. cit.:7), but this is not like trying to state 'laws' governing the relationship between any particular means of communication and characteristics of mental or social functioning. It will avoid the implication that literacy is in some way independent of human agency, or that 'technological' consequences fall equally on all, but see 'literacies' (in the plural) as dependent on the roles of literate groups and practices in society. Concentration on difference will also enable us to recognize that in most cases choice of medium reflects social, intellectual, and artistic considerations, rather than just narrowly 'technical' ones (Finnegan, ibid.:180). And it will require us, in framing accounts of unfamiliar uses, to remain alert to the danger of importing our own modes of thought and description, under the guise of 'objectivity', 'rationality' etc. (terms favoured by technological approaches), and of interpreting their absence as a sign of deficiency.

6.1.4 Defining literacy

What is meant by the consequences or uses of literacy will clearly depend on how literacy is defined. If it is simply taken to mean an ability, for example, to read a short passage and fill in a simple form, little will be made of its social role (cf Cook-Gumperz 1986:1). As Thomas observes, such a definition "tells us nothing about the impact of books" (Thomas 1992:8). It may also lead us to overlook the effects of historical and cultural variation, and so to "regard literacy merely as a technique or skill that can be measured in isolation from the kinds of text likely to be read" (ibid.:9; cf chapter 4). On the other hand, if we agree with Scribner and Cole that "literacy is not simply knowing how to read and write a particular script but applying this knowledge for specific purposes in specific contexts of use" (Scribner and Cole 1981:236), it will be necessary to accept that the socio-historical range of purposes and contexts is much greater than those with which modern, literate westerners may be familiar, including some (notably Qur'anic literacy) which need imply no understanding of the language in question. Recent scholarship is making this range increasingly apparent.

To appreciate the wide variation in what 'being literate' (or, at least, able to read) may be taken to mean, it is only necessary to consider, for example, the extent to which 'comprehension' is held to be intrinsic to it. In antiquity, when writing complemented rather than replaced oral transmission, most texts would already have been at least semi-familiar to their readers, and would not therefore have required to be comprehended through their written form (Thomas: ibid.); hence reading was strictly ancillary to speech (Stock 1993:273). In an examination of medieval reading habits, Saenger draws a distinction between 'phonetic' and 'comprehension' levels of literacy (Saenger 1989:142), the former confined to the ability to 'sound out' words from the written page, without knowledge of the language in which they are written; this, he suggests, was an important dimension of literate practice in the

Middle Ages, in much the same way as it is of the Qur'anic literacy practised in non-Arab states today (cf Scribner and Cole op. cit.). The apparently high rates of adult literacy in seventeenth century Sweden (90% by 1740, according to parish reading tests), although perhaps motivated by the rule that only the literate could marry, were made possible by the criterion test being the ability to read and, when required, to recite passages from Luther's Little Catechism (Resnick and Resnick 1977:374-4; Thomas, op. cit.:21).[2] Indeed, Resnick and Resnick point out that an ability to answer comprehension questions on a text, as opposed to the ability to produce fluent sounds in response to it, only became a regular measure of reading competence in the United States in the 1920's with the development of group tests, requiring silent reading (ibid.:382). Thus they argue that the modern 'crisis' over literacy standards is a consequence of the simultaneous attempt to raise the basic criterion of literacy to include comprehension (so defined), and to apply it to a larger proportion of the population (ibid.). The call to 'get back to basics' therefore rests on an illusion, since previous criteria were either lower, or restricted to a small elite (ibid.:385).

Such evidence suggests that expectations of literacy in a population tend to evolve in relation to the development of literate institutions (the Church, schools, etc.) within it, and the extent to which they impinge upon the lives of members of different social groups. As a result, Scribner and Cole argue, "definitions of literacy continually change with changing social conditions, even within a society having long traditions of schooling and literacy" (Scribner and Cole 1981:51). Clifford suggests three simultaneous dimensions of such development:

(a) a heightening of standards to include 'higher order' cognitive processes;

(b) an expansion of the social and individual purposes of literacy;

(c) the extension of literacy from religious/scholarly elites to the whole population

(Clifford 1984:482)

Clifford also notes that measurement and discussion of 'literacy' is complicated by the fact, already mentioned, that reading and writing have often been differentially distributed in society, writing typically taught to older pupils, and to boys rather than girls (ibid.:474; also Clanchy 1993:232); yet it is writing, rather than reading alone, which initiates change, dissent and criticism, and promotes the concept of literacy as "critical, creative and empowering" (ibid.:479; cf also Kress 1982:2-3; and §2.4.2.1).[3] Attention to the features of specific literate practices should thus alert us to the possibility that the 'consequences' of literacy are, in some measure, dependent on changing possibilities and expectations in given contexts.

6.1.5 Conclusion

There would be little point in trying to 'take sides' in the literacy debate; preceding chapters have already attempted to show the inadequacy of 'technological' explanation, where this is understood, in Ingold's sense, as the acontextual operation of machines, principles or rules to turn out uniform cultural or cognitive 'products'. In any case, the debate itself, at least within the field of literacy studies, has lost its urgency: as the generalized claims for literacy that caught public attention in the 1960's have given way to the small-scale contextual study of specific practices, so the notion of 'consequences' or 'implications' has itself grown more diverse and context-dependent, with the result that the two sides of the original debate have tended to converge. There has, likewise, been increasing recognition of the need to specify cognitive development more carefully in relation to practices and purposes (Rogoff 1990:6; Cole 1977). Thus, while being or becoming literate may still be thought to have a close bearing on cultural and cognitive change, there is now little to sustain the 'technological' belief that its effects might be asituationally predictable.

Equally, however, it is important not to lose sight, in the mass of ethnographic evidence, of the relation between forms of cultural practice, including particularly what Ingold terms 'inscriptive practices', and the development of human cognitive potentials. Moreover, despite their initial excesses, 'technological' accounts of literacy have played a significant part in furthering the idea that human mental processes are not self-contained or autochthonous, but culturally 'scaffolded'. It is not sufficient, therefore, simply to reject such arguments in favour of a more thoroughgoing ethnography, but to reconstruct the notions of culture and cognition on the sociocultural lines already described, such that the idea of literacy as instrument, somehow operating on a pre-existing cognitive structure or competence becomes strictly meaningless. In doing so, it will be most useful to associate literacy with Ingold's alternative notion of 'technique' - that is, embedded in particular practices, putting its users in a dialogical relation to the social settings and institutions in which these practices have arisen.

The following sections therefore seek to re-assess aspects of the 'consequences' side of the debate, in the light of the more detailed contextual work, in order to evaluate their various approaches to the question of cognitive change.

6.2 The 'technological' thesis

6.2.1 Technology and innate ability

As illustrated in chapter 2, belief that there is a connection between literate technologies and mental functioning is traceable to antiquity; each new development seems to have aroused the suspicion that the native powers of the mind were being eroded. Plato's hostility to writing, already noted, is

expressed in the *Phaedrus*, where the Egyptian king chides Theuth, the inventor of letters, for weakening the memories of those who rely on them, and so producing "the conceit of wisdom instead of real wisdom" (*Phaedrus* 275)[4] - although Goody and Watt argue that the development of Plato's own thought was, nevertheless, in large measure an outcome of properties specific to the written mode (Goody and Watt 1963:51; cf discussion in §2.2.3). Later, typography was attacked in similar vein as a "mechanical kind of writing" (quoted, without attribution, in McLuhan 1962:108); in some cases, monks were enjoined to copy the printed text, because print was thought to be too superficial to convey a spiritual message (Thomas 1992:75); the humanist Squarciafico, writing in 1477, observed that "abundance of books makes men less studious," (quoted in Ong 1992:298).[5] In reality, literacy by no means always reduced the need for mental effort: for example, just when writing made reliance on memory obsolete, the notion of rote learning and verbatim recall became a central pedagogic activity (Goody 1987:234); again making clear that it is necessary to consider not technologies in themselves, but how they are used, and how they shape their users' possible ends.

The attitudes illustrated reflect a narrowly instrumentalist view of how technology and human beings interact, assuming that a distinction can be drawn between 'innate' endowments and mechanical accessories. In each case, the concerns take moral form: shifting mental effort on to machines will cause specifically human qualities to degenerate - and in each case, the concerns are voiced when events have already overtaken them.[6] They express a Rousseauan fear that retains strong emotional appeal: not just of the loss of native powers but of a breakdown of organic, essentially human patterns of communication. McLuhan's version of the technological thesis takes this mythic structure as its premise: print has cut us off from the 'warm' face-to-face world of orality; Gutenberg disturbed the equilibrium of manuscript culture by subordinating aural to visual modes ('the ear' to 'the eye'), establishing the 'cold' characteristics of print culture: homogeneous, linear and repeatable, like the movable type it employed; silent, passive and private like the reading habits it fostered.[7] The appeal to a lost speech-world fragmented into silence and neurosis taps a powerful impulse in the industrial world; and, as myth, remains a subtext in much study of 'orality' and 'oral' communities (cf discussion in §2.2.3).

6.2.2 The technological view of literacy

Most versions of the technological thesis, on the other hand, maintain a more or less positivistic belief in the progress of human thought. Far from diminishing them, it is argued, becoming literate extends human capacities, either by freeing more of the mind for higher-order analytical operations, or, more fundamentally, by supplying a prosthetic device "by which human beings can exceed or even redefine the 'natural limits' of human functioning" (Bruner 1990:21).

At the heart of this latter view lies a recognition that, given the extent to which the human environment is culturally created and transmitted, it is impossible to draw a line between what belongs to our 'essence' and what is added on. Once added, writing, like other tools, interacts with and transforms its environment in ways which preclude treating it merely as a neutral addition to a set of mechanical aids that leaves the world otherwise unchanged. And, as technology transforms the contexts of human life, so the human activity within them is transformed correspondingly; what changes at each stage is not just the object of the mind's operations, but the nature of the operations themselves. The most fruitful versions of the technological thesis conceive of change in this way: not on the model of addition, but of integration. In historical analysis, as Brian Stock observes, it calls for "the replacement of ... linear, evolutionary thinking with a contextualist approach, which describes phases of an integrated cultural transformation happening at the same time" (Stock 1983:5). In psychological analysis, it requires a departure from the usual assumptions the 'stratigraphic' view of the agent in which cultural activity is no more than accidental (cf Geertz. 1973:37; and §4.2.1 above).

However, in diachronic accounts, the focus of interest is usually the process of change itself, in which a particular technical development is held to mark a decisive moment of transition in mentality (cf Geertz's 'mental Rubicon'; §7.1.3), or forms of social organization and activity. Such moments include the transition from orality to literacy, which brought permanence to the flow of speech, making past tradition available to scrutiny, and so enabling the literate individual to develop critical habits of thought (Goody and Watt, op. cit.); from roll to codex, making it much easier to read and write at the same time, and to compare different parts of a text, etc. (Chartier 1995); or from script to print, with its vastly greater diffusion, and standardization of text and editorial practices (Eisenstein 1979, 1983; see also Finnegan, op. cit.:141). McLuhan, by contrast, focused on the psychic change caused by the transition from 'ear-mindedness' to 'eye-mindedness' that followed the Gutenberg revolution. In Saenger's view, the crucial development was the change from the *scriptura continua* of the ancient world, to modern conventions of word separation introduced by scribes in the Middle Ages (1991:210). It was this, he argues, that radically changed reading habits by removing the need to 'sound out' the text as a means to understanding, thereby freeing cognitive capacity, and enabling rapid, silent reading to become the norm (and so, therefore, the transition from 'alphabetic' to 'ideographic' modes of reading). Olson, as noted, focuses on the 'discovery' of authorial intention by Aquinas (Olson 1994:152-3; cf discussion in §3.2.4).

In synchronic accounts, emphasis, instead, tends to fall on the so-called 'Great Divide' (cf Gellner 1973): on the differentiating function of literacy, and those aspects of society, behaviour, modes of thought or 'mentalities' that distinguish literate from non-literate societies. Finnegan suggests that one area of deep difference concerns reverence for the word for its own sake, to the extent that "it is

tempting to regard it as the key to all other differences" (Finnegan 1973:140). Moreover, within nominally literate societies, types of reading material and activity may be held to differentiate between 'high' and 'low' culture (Goody and Watt op. cit.).

In each case, developments in the field of literate activity serve to reinforce the view that such activity is pivotal in human development. Thus Eisenstein argues:

> One cannot treat printing as just one among many elements in a complex causal nexus, for the communications shift transformed the nature of the causal nexus itself ... It produced fundamental alterations in prevailing patterns of continuity and change.
>
> (Eisenstein 1983:275)[8]

The strongest versions of the thesis hold that literate people necessarily come to think and behave in radically different ways from non-literates. Thus the title of one of Ong's most recent papers asserts: "Writing is a technology that restructures thought" (Ong 1992; cf also Ong 1982:78). "Without writing, the literate mind would not and could not think as it does, not only when engaged in writing but even when it is composing its thoughts in oral form" (1992:294) - although it is unclear what sense attaches to the notion of a literate mind without writing (this paradox indicates a difficulty with the thesis as Ong conceives it; cf §6.2.4.1).

While, despite their vagueness, it is strong claims of this kind that have had widest general appeal, they have also attracted obvious criticisms. For one thing, as Coulmas observes of McLuhan, monocausal explanation of complex historical changes cannot fail to be suspect; he finds it surprising that such an approach was ever taken seriously in scholarly circles (Coulmas 1989:160). For another, statements of technological consequences can easily become generalized to the point of vacuity; as Finnegan comments, "writing has been held responsible for just about everything that is supposed to be characteristic of western civilization, not to speak of contemporary states everywhere else in the world too" (Finnegan 1988:147f; cf also Thomas, quoted as epigraph). Thirdly, the implication that a 'Great Divide' separates these cultural and/or mental states betrays an unmistakable teleology in which 'our' characteristic modes of print literacy emerge as the highest forms of civilization and mental achievement (cf §6.2.5.1 below).

6.2.3 The 'alphabetic hypothesis' and its critics

It has no doubt influenced the subsequent development of the idea in other disciplines that interest in the transition from 'orality' to 'literacy' as marking a qualitative change in thought originated in the study of classical Greek sources. It helps to explain why the discussion has often had a literary-historical emphasis, and been inclined to derive its evidence for cultural change largely from textual (so necessarily literate) evidence. However, with the diffusion of these ideas into other contexts, the

circumstances of their origin may be lost sight of; the fact that hypotheses about literacy derived from classical literature are now taken seriously in linguistics and psychology, makes their evaluation a matter of necessity. Moreover, it is ironic that because they were so rapidly taken over by non-classicists, the validity of the ideas in the Greek case itself has not, until recently, been evaluated very fully (cf Thomas 1992).

Analysis of the Homeric epics by Parry and, later, Lord, drew attention to qualities, particularly the high incidence of formulaic language, which to these scholars suggested spontaneous, oral composition, a view reinforced, they believed, by specimens of modern oral poetry collected in Yugoslavia (Lord 1960; for criticism of the Parry-Lord hypothesis cf Thomas op. cit.:32ff). It was argued that the introduction of alphabetic writing to Greece brought about a profound change in style and method of composition. According to Goody and Watt (1963) it also brought a change in attitude to what was composed, since the writing down of myths inevitably raised the question of their truth, and obliged readers to confront the inconsistencies in them which would be less apparent, or more easily accommodated in oral transmission.

Goody and Watt place particular emphasis (op. cit.:39) on the unique Greek achievement of the alphabet, which permitted more direct correspondence than earlier writing systems to the phonology of spoken language. In their opinion, this increased its efficiency and represented a democratizing force, since knowledge of the text did not become concentrated in the hands of priestly or scribal elites, so that the challenge writing posed to cultural tradition was thus more comprehensive in Greece than elsewhere (ibid.:44).[9] Moreover, they argue, since the alphabet transcribed speech itself, not entities in the world, all parts of speech could be represented, and written vocabulary augmented, with ease (ibid.:38). In short, the alphabet made it "possible to write easily and read unambiguously about anything which the society can talk about" (ibid.: 39).

Such ideas helped to lay the foundation for what Coulmas calls 'the alphabetic hypothesis' (Coulmas 1989:159), according to which the analysis of language into its phonological constituents promotes analytical thinking in its users (cf discussion in §2.4.3.2). It is given bolder expression by Havelock, a scholar influential in promoting the 'oral-literate equation' as a key to our understanding both of that period and of the 'modern mind' then emerging:

> Without modern literacy, which means Greek literacy, we would not have science, philosophy, written law, or literature, nor the automobile or the airplane. Something happened to make these possible. A slow revolution was occurring when Plato wrote, and the secret of that success lay in the superior technology of the Greek alphabet.
>
> (Havelock 1991:24)

This illustrates the appeal of the hypothesis, but also its drawbacks: Havelock betrays the readiness, encountered particularly in work associated with McLuhan's influence, to indulge in a kind of panchronic generalization that defies refutation. Moreover, when psychologized, as in Ong's reference to "the keen analysis or dissection of the world of thought itself made possible by the internalization of the alphabet in the Greek psyche" (Ong 1982:28), it needs to be treated with caution. This point will be taken up again shortly.

6.2.3.1 Criticisms

A number of specific criticisms have been made of the hypothesis as originally conceived. First, it becomes clear, when non-literary evidence is assembled, that literate practices were as diverse in the ancient world as anthropological accounts show them to be in the present. Larsen's analysis of the role of cuneiform in ancient Mesopotamia shows that it, too, was not confined to a single, 'primitive' mnemonic function, but could "be used in quite different ways in varying social and cultural situations" (Larsen 1989b:144). These, she argues, have to be understood as historical phenomena, rather than within Havelock's oversimplified and Greek-biased scheme. With regard to the classical world, Thomas criticizes these views for their "extreme Hellenocentrism" (op. cit:56): they take no account of the role (as yet inadequately studied) of the Phoenicians in the development of the alphabet (albeit without vowel signs), from which it is clear, at least, that intellectual activity did exist in other cultures (ibid.:54-5). They also fail to acknowledge the relatively slow spread of, and variety of non-literate uses for writing in Greece itself, where little intellectual activity was recorded in writing for two centuries following its introduction, suggesting no rapid transition to 'literate' thought processes. For this reason, she believes, we must consider other cultural and educational circumstances in attempting to explain the particular course of Greek intellectual history (Cf Lloyd's argument; §3.3.2). Why, she asks, if the alphabetic/technological account is true, were its consequences felt in Greece but not in Rome, which possessed an alphabet from the 7th century BC, or in other regions of Greece? More generally, why should literacy produce such differential effects (ibid.:20)? In her view there is a strong case for "regarding the effects or implications of literacy as heavily dependent on whatever society is using it" (ibid.:22) and its particular beliefs about writing.

The study of literate practices in China and India leads Gough to speculate that the introduction of alphabetic writing was of less importance for the development of such disciplines as astronomy, algebra and arithmetic, and so, in the long run, for modern experimental science, than the introduction of the zero to mathematics in India in the fifth or sixth century A.D. (Gough 1968a:76).

However, the most vigorous theoretical attack on "the tyranny of the alphabet", and its ramifications is mounted by Harris (1986). In his view, the alphabetic hypothesis is an inescapably Eurocentric construct, a projection backwards of our own (alphabetic) literate priorities, particularly the assumption that only the alphabet is 'proper' writing, into periods of history to which they are alien.

This makes it seem "as if, retrospectively, evolution could be seen to have been gradually working towards the creation of an 'ideal' alphabet as its long-term goal" (ibid.:37). As discussed in chapter 2, he sees the whole project as an illicit outcome of the "scriptist bias" of European education (ibid.:46), "a conceptualisation of writing which is itself the product of the uses of literacy in a highly sophisticated civilisation" (Harris, ibid.:53). Bloch, too, is critical of Goody's apparent assumption that the European (alphabetic) view of writing is universal. Discussing the Japanese case, he notes that ideograms do not 'obscure' a meaning which the alphabet would make explicit: they are the meaning, and cannot be reduced (Bloch 1989:33-4). This, of course, is central to the 'alphabetic'/-'ideographic' distinction already discussed. Indeed, as argued in chapter 2, inscriptive practices have defined approaches to language and thought in the western tradition since its inception: so that, in a crucial sense, the alphabet is implicit in the very conception of their most basic units.

6.2.4 Two technological views contrasted

To classicists whose knowledge is mediated by written sources, the vast improvement in the quantity and detail of the historical record that followed the appearance of writing might seem to signal a real change in the quality of ancient civilization (as Thomas asks: "How can we know that there was no logical thought before writing?"; op. cit.:20). But it is initially surprising that this idea should have proved influential in other fields. The academic community may tend to equate 'higher' cultural and intellectual activities with writing, and see ancient Greece as the fountain-head of its own tradition. More specifically, the classicists' work bore directly on the problem, familiar to anthropologists, of how to account for those characteristics of mind, belief, world view, etc. that seemed to differentiate 'advanced' from 'primitive' societies.

Presence or absence of a writing system was already established in anthropology as an index of cultural development (Basso 1980:72), a dependent variable on which to assess a society's level of sophistication in other spheres. The distinctive aspect of the new claims was that literate technologies should not merely be treated as evidence of cultural evolution, but, in some sense, as its cause. Two works published in the early 1960's brought this possibility to general attention: the paper by Goody and Watt (op. cit.), and the far more sensational account by McLuhan (1962). Both start from the premise that technologies of communication, chiefly alphabetic (or 'phonetic') literacy in the former case, the alphabet and the printing press in the latter, transform the world in which they operate and the psychology of their possessors. The following sections briefly contrast their two approaches.

6.2.4.1 McLuhan and Ong: restructuring thought

McLuhan's work, now largely forgotten, defines the extremity of alphabetic determinism, a position he sought to state, not ever more precisely, but in ever bolder aphorisms; in his best-known work, as

its dust-jacket proclaims, "The translation of tribal man into his Western form is shown to have occurred by the agency of phonetic literacy alone". Eisenstein suggests that this style of argument and disregard for detail may have inhibited more responsible research (Eisenstein 1979:xvi); but it has also provoked vigorous counter-arguments, including her own, and, ultimately, ensured that sweeping generalizations are treated with extreme scepticism. Like all attempts to identify a monocausal explanation for complex sociological phenomena, it collapses under the mass of possible counter-evidence, vitiated by its subordination of detail to its single grand design. It is obviously important, therefore, to differentiate between McLuhan's metaphysical explanations and those based on historical, cultural and psychological data. For, as noted, assumptions from the former have sometimes clouded the statements of the latter, especially in fields where these ideas have been adopted at second-hand. This is potentially more serious in relation to the work of Walter Ong, on whom (among others) McLuhan's approach has exerted a clear influence.

It is primarily through Ong's work that aspects of this general thesis have become academically respectable. His historical account of literacy as technology draws on a detailed understanding of many oral and literate traditions, particularly those of humanist scholarship. In his best-known statement of it (Ong 1982), Ong advances the case for a dynamic relation between forms of symbolic activity, both oral or graphic, and psychological development; in so doing, he helps to illuminate a broad swathe of cultural and intellectual history, and has stimulated an interest in these topics which could hardly have arisen in the confines of a single discipline. In particular, he has directed attention to the interconnectedness of cultural, social and psychological phenomena, to the fact that activities such as reading and writing are never simply instrumental events, but both arise out of and inform the institutions and understandings of those who engage in them. In this sense, moreover, a notion of psychological mediation is often implicit in the picture he presents.

In Ong's account, unlike McLuhan's, the 'technologizing' of thought, though alienating, is not represented primarily as loss: indeed, he claims, "all major advances in consciousness depend on technological transcriptions and implementations" (1977:42); technological progress and mental evolution are inseparable. With print, "a new noetic world was shaping up, spatially organized" (Ong, op. cit.:125): mental 'places' of storage became physical places; ultimately, "one consequence of the new exactly repeatable visual statement was modern science" (ibid.:127; cf Eisenstein 1983). But, however suggestive such connections, it is regrettable that Ong should cast his discussion of them in a frame that, once again, tends to subordinate detail to generalization, and attempt to strengthen it by stressing its determinism. In this, Ong's style of argument betrays its debt to McLuhan. This occurs largely as a result of the insistently psychologized terms in which it is framed, with its focus less on the nature of the practices than their implications for the 'mentalities' of their users. In particular, he is concerned with the differentiation of oral and literate modes of

consciousness ("noetic economies"), held to define the potentialities of human expression in different eras, and alludes freely to such states as "primary orality" (eg ibid.53), "the unreflective chirographic-typographic mentality" (Ong 1982:27), "the noetic economy ... of the west" (ibid.:130), etc. These, however, are both exemplified and explained by reference the different forms of activity that characterize them. This circular appeal to the evidence in effect enables Ong to assume the validity of the picture he wishes to establish; in this sense, therefore, and despite the relevance of the details he presents, his account of literacy offers little real insight into the means by which it may effect mental change. Instead, Ong's world, like McLuhan's, is structured by the senses; a change from an 'auditory' oral and manuscript culture to the 'visualist' culture of the printed book, is registered internally no less than externally, without necessity of further mediation.

Moreover, as noted, he assumes, like McLuhan, that in the absence of literacy, human consciousness must fail to realise its full potential (ibid.:14-15), or attain a stage at which mental life becomes properly 'interiorized' (ibid.:178). Hence, the "restructuring of thought brought about by writing" (ibid.:28) marks the decisive transition from primitive to modern 'mentalities', leaving those who lack it necessarily incomplete. Despite some attempt to qualify his position, and insistence that "orality is not despicable" (ibid.:175), Ong's association of the cognitive consequences of literacy with this problematic teleology tends to compromise the discussion, as viewed from anthropological or psychological perspectives. When taken up in related contexts, such notions may be thought to imply a simple connection between 'literacy' and 'consciousness' where none has been adequately demonstrated.

The use of terms such as 'consciousness', 'mentality', etc. in relation to literacy and orality (not to mention Ong's 'noetic economy', Goody's and Watt's 'thoughtways', etc.) is a hazard in trying to evaluate the effects of literacy. However justified in a literary context, in psychology or anthropology they connect with speculation about the existence and origin of differentiated mental states ('advanced' versus 'primitive', for example). Since it is usually the existence of such states that is in question, use of the terms is likely to pre-empt discussion. Nor is it easy to see how they can be defined without circularity. Ong (quoted above, §6.2.2) creates the impression that a 'literate mind' is distinguished by its internal, rational properties (hence a literate mind without writing); but how are these properties to be recognized, other than by evidence that their possessors engage in appropriate forms of literate activity?

Secondly, although the effects of literacy are likely to be differentially distributed, penetrate to different levels of society at different times, etc., use of such terms tends to universalize them. 'Literate consciousness' may be an attribute of a person, a society, or an age; it may thus seem plausible to expect the transition to literacy to produce unmediated, internally registered change in a whole population, of a kind which psychological experiments could be designed to measure, as in the

Vai literacy study (§6.2.6 below), irrespective of individuals' access to it, or use of it only for certain purposes - for example, for reading but never writing, (cf Clifford 1984:474); or for book-keeping but never textual analysis. Ong gives many examples of the ways in which forms of literate activity may affect the individuals who engage in them, but presents his conclusions as if they applied to 'human consciousness', etc. as a whole, and permitted the definition of 'oral' and 'literate' as distinct mental categories. This then encourages him in reading the post hoc account of transitions between communicative practices as necessary stages of cultural and psychological evolution. As with Olson's 'utterance'/'text' model (§3.2.2), the purely schematic framework seems to provide an explanatory theory, in which literate activity functions both as criterion and cause.

6.2.4.2 Goody and Watt: the critical attitude

Goody's work has always been finely balanced between the broad lines of technological argument and respect for specific ethnographic detail. In contrast to the determinism of the McLuhan approach, he has recognized the need to specify the means by which the acquisition of literacy may result in social and cognitive change. Despite its claim that literacy brings about "some more or less absolute efficacy in the organization of human knowledge" (1963:65), Goody's and Watt's original paper took account of historical and ethnographic evidence in distinguishing between types of literacy and social context:

> The extent of [the changes that occur as a result of writing] varies with the nature and social distribution of the writing system; varies, that is, according to the system's intrinsic efficacy as a means of communication, and according to the social constraints placed upon it, that is, the degree to which use of the system is diffused through the society.
>
> (ibid.:34)

Goody's increasingly circumspect conclusions derive mainly from anthropological field-work, and are less concerned with cataloguing the universal, context-independent characteristics of 'the literate mind' than with showing the variety of effects that literacy can produce in different societies, and how attention to diverse literate practices can illuminate specific historical and cultural developments. However, the distinction between his approach and that of McLuhan and Ong is not simply a matter of his having an anthropologist's eye for the locations in which the consequences of literate activity are realised. Goody offers a view of cognition as itself contextually embedded, mediated by culturally specific forms of activity. This is a wholly different understanding from McLuhan's (and Ong's) of the nature of cognition and cognitive change, a fact which makes it impossible to represent them as exponents of the same basic position.

In their paper, Goody and Watt make a general claim for regarding the invention of writing as the event that brought the human mind to consciousness in the modern, self-reflexive sense by virtue of the kinds of activities it promotes. In their view, the appearance of a written record signals the

emergence of early human culture into 'history': "man's biological evolution shades into prehistory when he becomes a language-using animal; add writing, and history proper begins" (Goody and Watt, op. cit.:27). By preserving a body of statements about the past not assimilated to the present by a 'rationalizing', homeostatic oral tradition, but available to scrutiny and reinterpretation, this written history cannot fail to "enforce a more objective recognition of the distinction between what was and what is" (ibid.:34). This marks the inception of a critical, interpretative attitude towards received beliefs, of which the paradigm instance is that of ancient Greece. Inconsistencies in the written record gave people a more comparative outlook on their world picture and notions of the past (ibid.:48); this, in turn, generated new versions for future interpretation. In the process, words such as 'God', 'justice', etc. came to possess an independent meaning, opening up a sphere of abstract ratiocination largely unknown in oral cultures. Moreover, its ease allowed writing to encompass anything which could be talked about (ibid.:39,55).

Written text introduces a historical and critical dimension to both individual and social functioning: "The content of the cultural tradition grows continually, and in so far as it affects any particular individual he becomes a palimpsest composed of layers of beliefs and attitudes belonging to different stages in historical time" (ibid.:57). Likewise social and intellectual groups in a literate culture come to be influenced by a profusion of past systems of ideas, etc. that make it increasingly hard for any member of society to experience the past as a unified whole. This ultimately leads to fragmentation and social tensions, the ever more minute differentiation of social and professional groups, and discontinuities, as between 'high' and popular culture, or between 'public' school literacy and 'private' home orality (ibid.:59-60; and cf chapter 8 below). In such circumstances, self-reflexive 'individual' experience acquires its modern importance, detached from the homeostatic oral group, able to analyse its own nature as expressed in writing, and bound to make what coherence it can, by selection, out of the vast repertoire of the literate tradition.

6.2.4.3 Discussion

As noted, Goody and Watt have been criticized for their Hellenic bias, particularly their belief in the importance to emergent rationality of Greek (specifically alphabetic) literacy (op. cit.:39). Moreover, evidence from elsewhere has seemed to falsify key aspects of their thesis. For example, Gough (1968b) concludes from a study of literacy in Kerala that, despite the relatively advanced development there, as separate disciplines, of grammar syntax, logic, history, etc.,

> there was little or no attempt to separate history from myth, or theology from science. There was apparently little interest in the sceptical questioning of tradition or the conscious search for scientific, as distinct from mystical, truth. Democracy did not develop in any Western sense...
>
> (Gough op. cit.:152)

She concludes that literacy should be considered an 'enabling factor'; though it may lead to the growth of political structures, differentiation of fields of knowledge, logical styles of enquiry, etc., their actual development will depend on "concomitant factors of ecology, inter-societal relations, and internal ideological and social structural responses to these" (ibid.:153). Given the readiness of Goody and Watt to acknowledge social variation in the effects of literacy, however (op. cit.:34), it is not clear that they would dissent from Gough's conclusions (cf also Goody's introduction to her paper; Goody 1968:132).

If the 1963 paper was in some respects overly schematic, it nevertheless kept sight of the complexity of cultural detail, which it did not subordinate to a determinist thesis. Goody and Watt are aware of the danger of exaggeration (for example, with regard to the primacy of Greek culture; op. cit.:65), and of dichotomizing too sharply between 'oral' and 'literate' cultures (since, for one thing, the literate tradition does not supplant the oral, but complements it).[10] Ultimately, their case for literacy is that it is one influence (albeit, perhaps, the most important) in a picture of cultural evolution that is inevitably multidimensional. Whereas McLuhan and Ong imply that literate 'consciousness' is an undifferentiated property of both the individual and the culture, Goody and Watt regard it as inseparable from specific forms of activity in a socially and semiotically organized context.

Since this work with Watt, Goody has focused less on Greek origins and tended to emphasize the diversity of literate practices and complexity of oral/literate boundaries in specific settings. Their impact on the organization of society and the cognitive operations of their users has remained a unifying theme, particularly with regard to the organization of knowledge (1977;1987), and to major social institutions such as government, education, religion, law and the channels of economic and political life (see especially 1986; cf Appendix 1). However, he cautions against treating the relation of literacy to such institutions as the history of a single thread in the social fabric, as if all developments were due to it alone (1986:xv).

The fact that both practices and consequences are now taken to vary according to the circumstances of a given context has prompted criticism that the original technological thesis has been so hedged and qualified under pressure of specific detail that it has, in reality, ceased to exist (cf Halverson 1992). Certainly, Goody has clarified his understanding of literacy as a 'technology of the intellect' (cf Goody 1977:151), and, in response to the factorial method used by Scribner and Cole (1981) to test the assumption that a general ability to read a language or script may have a "direct, precise, immediate and unmediated effect on general cognitive abilities in a specific psychological sense" (1987:218), set forth in more detail a 'mediated' view of the relationship between the social and psychological phenomena discussed further in chapter 7. In one sense, perhaps, where the earlier, broader picture helped to focus attention on the interconnections between literate and other cultural and intellectual developments, it is for detailed description, such as Thomas', to reveal their true

complexity. Ultimately, the two styles of approach might be complementary: Greek philosophy did not have to arise over night for the basic claim that literacy promotes certain kinds of activity conducive to abstract thought to be generally true. What is necessary, however, is that theorizing at a macro level should reflect the actual micro level complexity of literate phenomena.

With regard to cognitive consequences, it is clearly necessary to be aware of the different strands of technological argument, and their contrasting views of the notion of change and its causes. Moreover, as Olson and Astington comment:

> [Historians] are talking about the evolution of a literate mode of discourse that took, perhaps, a millennium to evolve ..., whereas, when psychologists ask the question, we are thinking of a change that may occur in a year or two while the child learns to read.
>
> (Olson and Astington op. cit.:708)[11]

Olson and Astington argue that it is necessary to investigate the relationship between literate institutions in society, the structure of language, and individual cognitive processes (ibid.:706); they suggest that the effects of literacy are indirect: literacy affects language and language affects thought, especially through the development of means of talking about text (cf §3.2.3). It is clear, at least, that, for any sense to be made of the technological argument in psychological terms, some means needs to be specified which relates social-historical and individual dimensions. Ultimately, instead of references to collective or individual 'consciousness' as an internal attribute, it will be more fruitful to consider engagement in different kinds of literate practice through which different kinds of cognitive potential are created. This idea is developed in the following chapter.

6.2.5 The 'ideological' view

6.2.5.1 The 'Great Divide'

Any theory that seeks to explain cognitive difference in cultural terms faces two challenges. One is to avoid oversimplifying a picture "in which complexity is not just an accidental distraction but an essential aspect of actual human activity and expression" (Finnegan 1988:145-6): by implying, for example, that literacy and orality, and the relations between them, have remained static from the 8th century BC to the present (cf Thomas, op. cit.:5-8); or that some cultural states, notably 'pure orality', are less problematic or more 'natural' than others. The other challenge is to show that this view is not merely a product of 'our' ideology, a projection of western categories and canonical modes of understanding on to societies to which they are alien to justify regarding those whom they exclude as not quite fully human; as Hacking comments, "the native has heard that one before" (Hacking 1975:149). Both are raised by any attempt to draw psychological implications from the oral-literate dichotomy.

The existence of some kind of divide, synchronically between cultures and diachronically between earlier and later states of the same culture, is, nevertheless, hard to deny: they differ, for example, with respect to the influence and inclusiveness of their 'knowledge paradigms', the authority of their discourses, the predictive success of their theories, or the material success (and destructive potential) of their technologies. In the past, such differences were counted as direct evidence of cognitive differences (Cole and Scribner 1974:25), often of inferiority. Today, changes in western societies, and the transition to a post-colonial order in the developing world, have exposed these ideas to new scrutiny; debate now usually concerns the legitimacy of making any inference from cultural differences to differences of evolutionary state, mentality, level of rationality or consciousness, etc., and what these terms actually mean (cf, for example, Horton and Finnegan 1973, Berry and Dasen 1974, Hollis and Lukes 1982, Lloyd 1990, Tambiah 1990); much work, especially in anthropology, has been devoted to revealing the rhetorical and ideological construction of the autonomous discourses in which cultural comparisons are framed. There is, in Goody's phrase, an "ethnocentric binarism enshrined in our own categories" (Goody, 1977:8): a divide is implicit in the very descriptive terms at our disposal; in distinctions between 'science' and 'myth', or 'fact' and 'metaphor', etc.. Hence, researchers in these fields have grown careful not to portray their purpose as a quest for disengaged truth, but as the framing of interpretations, in which both the discourse of interest and its 'reading' are seen to emerge from specific cultural circumstances. It is therefore much harder than in 1963 to discuss the 'consequences' of literacy as if it were independently capable of turning ('pre-rational') tribesmen into ('rational') modern citizens, or bridging a chasm between 'savages' and 'us'.

6.2.5.2 Street's 'autonomous' and 'ideological' models

Street's (1984) account of the literacy debate is explicitly organized around the opposition between what he calls 'autonomous' and 'ideological' models (cf §1.3.2). In his view, proponents of the former, among whom he numbers Goody, Olson and Lyons, have, in different ways, been misled by the authority of their own preferred genres and 'technical' descriptions into assuming that the conventions of 'objectivity', etc. most highly valued within them are intrinsic (autonomous) properties of 'literate thought'.

It is on these grounds that he disputes the claim that the English language is inherently suited to objective, scientific representation (Street 1984:73). Such assertions, made on one occasion for the English language, or some variety of it, for example, scientific English, are advanced elsewhere, for example, by Bernstein (1971), for specific academic or class codes, or for written as opposed to oral language, or for a particular literary tradition, for example the classical, or, again, for the 'mentality' of some particular group of speakers, for example the ancient Greeks or Sprat's English contemporaries (cf §3.3.3.3). They prompt suspicion that it is the nature of this disposition, so

clearly favourable to the interests of a particular, usually powerful, group, that requires scrutiny, rather than the properties of language or 'mentality' (etc.) supposed to embody it (Street op. cit.:74).[12]

In contrast, the 'ideological' model recognizes that literacy cannot be separated from its cultural and political context, that there is no other way in which it can be measured or have meaning. It therefore becomes necessary to think in terms of literacies whose characteristics reflect those of the social hierarchy and the institutions, notably education, in which they are embedded, and determine the practices that are valued in particular communities (cf Street 1984:8).

Street is therefore critical of UNESCO educational policies in the developing world for seeking to implement the autonomous view of literacy in the belief that it will, of itself, result in greater levels of 'progress', individual liberty, etc. Such programmes are guilty, at best, of ignoring the contextual functions of literacy, and, at worst, of propagating the political and economic ambitions, of white Europeans.[13] For Street, this is typical of the west's use of the 'autonomous' model to disguise its ideological position. In reality, such programmes have taken little account of local conditions, or values, but have been aimed at creating a more efficient and controllable workforce (ibid.:184ff).

6.2.5.3 Discussion

The virtue of Street's approach is that it locates the study of literacy in the framework of values that are placed on it, and the practices it informs. It insists that we see it as a social fact, constructed by its users to serve a variety of interests and purposes, rather than as a tool that may be applied anywhere to achieve automatic 'progress', etc. In particular, Street alerts us to the dangers of covert ideology that presents itself as truth: ultimately, he implies, all approaches to literacy are ideological; it is simply that scholars who have grown up seeing the world through the spectacles of a dominant ideology consistently fail to realise this.

On the other hand, Street's argument lacks flexibility to pursue its own implications. The autonomous/ideological division is itself ideologically rather than theoretically motivated; in the terms of his discussion, there is no 'objective' vantage point from which to evaluate the claims of the autonomous model, and no evidence that could possibly count for it which was not itself a product of that model. Necessarily so, he might add; the illusion that there are empirical 'facts' to refer to is simply a product of the 'autonomous' position. Yet it is not proved by Street's line of argument that all 'autonomous' claims are equally specious, merely that they are not autonomous. It may be wrong to think them self-validating, but they can still embody views that are worth discussing.

As a result, complex issues in the study of literacy are reduced to polarized, antagonistic positions. As with the literal/figurative distinction, it is less interesting to show that the 'autonomous' is not a God-given, final category, than to understand what ends are served, what kinds of knowledge made

possible (and legitimated, etc.) by the drawing of the distinction itself, and by belief in its validity. Ultimately, Street's insistence on the autonomous/ideological contrast comes to seem no less a reduction of the real complexity to which Finnegan refers than the assumptions of the autonomous account (cf also Biber 1995). For one thing, by understating the literate/oral distinction, Street fails to do justice to their functional differentiation and its implications (cf Larsen 1989a:10).

When examined more carefully, there is frequently little to separate Street's specific claims from those of Goody whom he attacks. Both would, no doubt, agree that there is every reason for not wanting to treat other cultures as if they were imperfect versions of ours, and for trying to understand them in terms relevant to them. Nor does Street deny that literacy can be an agent of change: indeed, he adopts a notion of "literate mentality" proposed by Clanchy (see Clanchy 1993:185ff), which stresses gradual, pragmatic accommodation to the new possibilities afforded by writing, rather than sudden change. According to Street, his use of the term indicates that "the shift [to literacy] involves a way of thinking, a whole cultural outlook, an ideology, rather than simply a change in technical processes" (Street 1987:51), determined by human agency, not by properties intrinsic to literacy itself. This hardly seems to differ from Goody's understanding of the issue.

The limitations of Street's scheme are most evident in his treatment of Goody's account of how literacy creates a new attitude to the past. Street (1984:54ff) accuses Goody (and, presumably, Watt) (1963:47-8) of taking Thucydides at face value when he claims to be presenting true history, as opposed to myth, in his account of the wars between Athens and Sparta. In fact, Street argues, in the nature of such accounts, Thucydides was using 'history' to support Athenian ideology:

> The uses of 'history' ... always involve selection, speculation and hypothesized connections, and the scholars operating this process are products of a specific society, speak its language and are imbued with its ideology, so their work must always bear a complex if not tangential relationship to 'reality'.
>
> (Street, op. cit.:54-5)

Since "we have no proof of a 'real' distinction of myth from history, as opposed to an ideological claim or commitment to it ... to ask whether literacy, however defined, is a cause of such a distinction becomes fruitless" (ibid.:56). Yet it misrepresents Goody's and Watt's position to equate their view of the distinction between 'real' history and myth with that between 'objective truth' and ideology. They do not allege that becoming literate automatically turns oral myth-makers into disinterested scholars; or that it will lead anyone to 'truth'. Instead, Goody and Watt imply that it leads to the possibility of 'truth or falsehood'; accounts that were previously unquestioned are seen to require new kinds of justification. The distinction between history and myth requires the emergence of a critical attitude to the past (Goody and Watt, op. cit.:48), made possible by the existence of written records, that takes it to be at least potentially open to scrutiny and interpretable. The

historian faces the problem of reconciling inconsistencies in the record that the oral tradition would have smoothed out and assimilated: "Many individual solutions to these problems were themselves written down, and these versions formed the basis of further investigations" (ibid.). There is no suggestion that "individual solutions" could not also have been ideologically motivated. It is therefore against the existence or non-existence of a 'critical attitude' in particular societies that we might test Goody's and Watt's claim, not against the convergence of historical accounts into a single, 'true' version.[14]

In similar vein, Finnegan observes: "It has to be faced ... that writing can as easily be used to interfere with objective scientific or historical enquiry as to support it" (1988:152); yet it is unlikely that even a dogmatic advocate of the technological view would dispute this. There can be no suggestion that literacy compels its users to be 'objective'; only that, with literacy, a distinction becomes available between a 'fact' and its 'interpretation' (cf Olson 1991a). As previously noted, the genre (or genres) of 'history', and its relation to written records, have taken many forms, by no means all analytical in the modern sense, and made different kinds of appeal to authority (cf White 1978). It goes without saying that literacy opened up hitherto unknown opportunities for forgery, invention of facts and imposture; but it also made possible the detailed scholarship by which such deceptions could be unmasked, and critical attitudes cultivated, as Grafton illustrates for the Renaissance (Grafton 1991). Goody and Watt may be too willing to accept this humanist image as one intrinsic to literacy itself, and thus to neglect other literate approaches to the past. And Street may be right to argue that there are political, rather than technological, reasons for the emergence of critical attitudes in ancient Greece (cf Lloyd's view; §3.3.2); it is beyond doubt that literate practices and acts of interpretation are always 'ideological', as previous discussion has argued. But Street's handling of the issues in this case is surely a consequence of the artificially antagonistic format of the 'literacy debate'.

6.2.6 Scribner and Cole: testing the technological thesis

The study by Scribner and Cole (1981) among the Vai provides a detailed picture of the spectrum of literate practices in the daily lives of their subjects and of the difficulties encountered in testing abstract psychological hypotheses in real life settings. In one sense, the richness of its detail stands in contrast to their experimental purpose. For, as previously noted (chapter 4 note 13), Scribner and Cole saw the unusual circumstances of Vai literacy as an ideal 'natural laboratory' in which to test the validity of technological claims for literacy as an agent of cognitive change. In particular, they sought to take advantage of the fact that in this setting literate activities in English, Arabic and the Vai syllabary exist in parallel, each with their own spheres of influence and associated with different types of education; the last, moreover, transmitted and used (as noted previously, almost exclusively

by males) outside formal schooling or engagement in other kinds of traditional activity (op. cit.:31), enabling the effects associated with each to be examined separately.

The aim was to rectify the failure (as they saw it) of Goody and Watt, among others, to substantiate their claims about the specific psychological effects of literacy (ibid.:7). To this end they adopted the procedures of 'objective' psychological testing, to determine the independent effects of literacy in the three languages, and other factors, especially schooling, on the handling of various abstract classification, memory, and reasoning tasks. The intention was to show to what extent literacy promoted 'rational' and analytical abilities. They also administered a series of tests to assess literates' ability to view aspects of language itself objectively.

Scribner and Cole were undoubtedly aware of the difficulties of testing in such a context, and of the danger of mistaking cognitive skills that have evolved in our own context for universals, and their absence in others as a 'deficiency' (Cole and Scribner 1974:200). In this regard, as Finnegan observes:

> If we define ... terms narrowly enough to test directly, there is the difficulty that the tests may (tautologically) uncover nothing more than the presence or absence of our own cultural norms; if more widely, then can we be sure that, given present cultural differences, the tests definitively demonstrate writing as a necessary precondition for rational cognitive processes?
>
> (Finnegan 1988:151)

The possible circularity of such testing is apparent in Luria's experiments among the rural population of Soviet Central Asia (Luria 1976, esp. 108-9; cf also Cole and Scribner 1974:160ff). Use of the syllogism to test subjects' ability to draw 'correct' logical inferences represented just such an identification of a specific (western) literate practice with the existence of a specific (rational) thought process. Ability to perceive a problem in the decontextualized terms required by the syllogism presupposes a willingness to restrict attention to the symbolic relations within it, rather than its possible relation to the real world; and, as Olson argues, the disposition to approach the problem in this way is a result of familiarity with essentially textual procedures (Olson 1986:340-1; cf also Olson and Astington 1990; a similar point is made by Ong 1982:53-4). Commenting on the Vai study, Berry and Irvine, also note that "under day-to-day conditions of living, logical thinking is purposefully linked to the solution of practical problems (as it is for most folk in Western industrialized societies)" (Berry and Irvine 1986:290-1).

Surprisingly, therefore, despite their scrupulous attention to method, and care to validate their findings, the authors made curiously little allowance for the possibility that the abstract nature of the abilities tested and of the procedures used to test them might be mutually defining, products of the western emphasis on decontextualized symbolic operations. Their tests bore little relation to the

actual literate practices of the Vai. Indeed, this transposition of American laboratory methods into a wholly alien and vividly detailed cultural setting created the work's central tension: between the ethnographic pursuit of detail and the quest for experimental evidence of acontextual mental abilities. Their account can perhaps be read most fruitfully as the slow discovery of the inadequacy of their original position.

Their initial findings showed no overall cognitive effects of literacy, and so nothing to support the notion of "a general 'literacy' phenomenon" (ibid.), but, instead, only a mass of differentiated, and non-interchangeable abilities, which they interpret as showing that "neither syllabic Vai script literacy nor Arabic alphabetic literacy was associated with what are considered the higher-order intellectual skills" (ibid.:132). Yet rather than accept this as persuasive evidence against the technological view of literacy, it might have been more appropriate, at this point, for the investigators to question their understanding of that view, especially their model of determinate universal competences, and the capacity of literacy to act immediately upon them - especially since Scribner and Cole stress the Vygotskian derivation of their position, and the importance of understanding the mediating mechanisms involved (op. cit.:159). There is, in fact, no reason to suppose that 'general literacy' or its consequences could be abstracted from the functions of literate practices as determined by the quite different traditions and institutions in which they occur (cf Scinto op. cit.:97-8); the tendency to do so is chiefly an artefact of the statistical procedures used.

It is on these grounds that Goody criticizes the authors' conclusions at this stage. In his view, it is hardly surprising, given the range of Vai literate traditions, that they found no single 'literacy' factor (Scribner and Cole op. cit.:100; Goody 1987:217): yet, he argues, in an obvious sense, the very existence of an ability to read books and write letters shows that literacy <u>is</u> a dimension of Vai life. He is likewise critical of the assumptions that led them to conclude that there were no "general cognitive consequences of literacy" (Scribner and Cole op. cit.:158; Goody op. cit.:214). As he points out, to expect unmediated effects (for example, leading to changes in the way objects are categorized) is to locate the criteria for literacy in the head rather than in what it enables its possessors to do (read books, consult maps, etc.). Literacy has a different meaning in the three languages, each of which, to borrow Scinto's term, bears a different "functional load" (Scinto 1986:97). Literacy in English or Arabic gives access to extensive written traditions, whereas in Vai it does not; conversely literacy in English involves knowledge of the language, Qur'anic literacy need not. Or again, printed texts circulate in English, but very few in Vai (Scribner and Cole op. cit.:240). Such differences, Goody contends, carry different implications for learning and also for practical action: reading Darwin may alter the reader's understanding of the creation; reading the Qur'an may prompt the reader to undertake the pilgrimage to Mecca; but neither consequence is likely to be detectable in tests designed to show the 'unmediated' cognitive consequences.

In the second phase of their study, conceived partly under Goody's influence, Scribner and Cole paid close attention instead to the kinds of uses to which the Vai put their literate skills - especially writing letters to communicate information to a definite addressee (with respect to Vai), and developing incremental memory (with respect to Qur'anic literacy) - and devised tests to reflect the specific nature of the skills themselves. The results showed that the 'effects' of literacy were most readily reflected in tasks which closely mirrored the nature of the specific practice; as they put it: "particular practices promote particular skills" (ibid.:258). These are therefore distributed according to the kinds of practices in which individuals engage. Moreover, in comparison with the 'higher' skills of explaining and interpreting, etc. developed by schooling, those associated with the unschooled literacies in this study remained strikingly limited.

Thus, Scribner and Cole are led to propose what they term a 'practice account of literacy' (ibid.:235). In one sense, this returns to Thornkike's notion of transfer, from which the maxim that 'we learn to read by reading' was derived (cf §5.3.1.1), the difference in this case being that the notion of practice takes account of the mutual definition of cultural and cognitive phenomena. The 'transfer' involved here depends on the nature of the activities concerned, not simply the imagined degree of congruence between internal abilities. As the authors ultimately acknowledge, this makes it possible to avoid drawing any sharp boundary between cultural causes, and psychological effects; their relation is dialogical and mutually constitutive. If this is so, however, it means that the acontextual theory of the earlier part of the study, and so too the original conclusions, should be judged misconceived.

6.3 Conclusions

6.3.1 The literacy debate and the study of literacy

In one sense the approaches to literacy described in this chapter reflect the methodological division that runs through the human sciences, between laboratory and field, deductive and inductive routes to understanding. In reality, however, there is nearly always some degree of tension between universal statement and local detail in work of both kinds. And, although attitudes to it may diverge, the question of how literate activities shape social and cognitive worlds holds interest for scholars no matter which approach they adopt.

It therefore seems fair to conclude, with Thomas (1992:14), that the schematization of the 'literacy debate' has, on the whole, handicapped the careful study of literacy in context. It has caused too much attention to be focused on the validity of 'technological' questions; on the extent to which literate technologies can be held responsible for historical changes in, and the contemporary diversity of, world views, technical achievements, social organizations, systems of belief and individual cognitive functions. To Larsen "it seems ... that the discussion could meaningfully move on to more

subtly defined problems" (Larsen 1989a:8-9). Second, it has polarized views in a way which the accumulation of ever more specific data on literate practices in a wide variety of locations and periods, has made increasingly false. At the same time, it has tended to conceal the extent of shared ground among its participants, and freeze them in attitudes which they have since moved beyond, or qualified in significant ways. In Larsen's view, "there is a real danger that the discussion now concerns views which are upheld by nobody - or at least no longer by their first authors" (ibid.:9). Third, it has encouraged its participants to set up straw men; ideas under attack are often stated in simplified, indefensible forms, as the discussion history and objectivity has illustrated.

6.3.2 Consequences for other disciplines

Literacy and literate activity have now been studied from a wide variety of perspectives, historical, psychological, anthropological, ethnographic, etc.; as indicated, the recent tendency has been towards ever closer analysis of literate practices in given contexts. The cross-disciplinary nature of this work appears to belong to a realignment in approaches to human activity in general, away from the positivism that marked its earlier phases, the factoring out of commonalities to establish the nature of Geertz's "consensual man", the "dead stereotype" (Geertz 1973:51), in relation to whom it was possible to state behavioural universals and posit unmediated cognitive consequences. It belongs to the new historicizing of thought and action, and a willingness to treat engagement in specific forms of socially organized practice and external symbolic systems as inseparable from the nature and development of 'mental' phenomena. The study of literacy as a 'technology of the intellect', in Goody's sense of the term, has been a major stimulus to sociocultural approaches to human cognition.

Unfortunately, it has usually been the earlier, bolder 'technological' positions, rather than their later, more complex restatements, that have caught the interest of other theorists, so that it is still frequently a reduced version of the technological thesis that has filtered into related fields. As a result, references to 'literate consciousness', etc. now crop up even in cognitive accounts of language learning and behaviour. Thus, reviewing approaches to oral and written language in schooling, Horowitz and Samuels cite authority such as Havelock's for the view that the transition from orality to literacy involved "a shift to markedly new kinds of consciousness and intellectual possibilities" (Horowitz and Samuels 1987: 14-15); indeed, they comment, "It is impossible to fathom the shift in mind (and soul) that emerged with the use of script and later the invention of print" (ibid.: 18). The remoteness of these terms from the rest of their discussion suggests that neither 'literacy' nor the 'socio-historical perspective' have been properly assimilated. As has been argued, ideas of this kind do not reflect contemporary literacy research, or lend themselves to application in the study of actual literate practices.

7. THE SYMBOLIC MEDIATION OF THOUGHT AND LEARNING

> Neither the naked hand nor the understanding left to itself can effect much. It is by instruments and aids that the work is done.
>
> (Bacon 1620)[1]

7.1 Introduction: cultural mediation in human development

7.1.1 Introduction

The preceding chapters have argued that 'technological' and componential approaches to the written sign, the text and cognition have produced the "antihistorical, anticultural bias" in psychology and language learning to which Bruner calls attention (Bruner 1990:116), the defects of which have been discussed both with respect to reading comprehension (chapter 4), and reading and language learning (chapter 5). Moreover, the last chapter has shown how similar considerations are involved in the treatment of literacy as a 'technology' detachable from the uses to which it is put, and the practices which shape them.

As noted, there is now a tendency to pursue the close description of diverse literate contexts. Nevertheless, though desirable, this need not mean abandoning the question of 'cognitive consequences' with which the earlier approach was preoccupied, but, instead, implies situating and historicizing the notion of cognition itself, recognizing that thought develops in the context of particular practices and their cultural history. In essence, the contrast here can be seen once again to embody Ingold's distinction between autonomous technology and the multifarious contextual forms of human tool use, with their corresponding diversity of techniques within locally determined and understood practices. This is the project with which the present chapter is concerned, as theoretical background to the discussion of reading as practice and the Hong Kong study in chapter 8.

7.1.2 The role of external symbols

> Thinking consists not of 'happenings in the head' (though happenings there and elsewhere are necessary for it to occur) but of a traffic in what have been called ... significant symbols - words for the most part, but also gestures, drawings, musical sounds, mechanical devices ... or natural objects ... - anything, in fact, that is disengaged from its mere actuality and used to impose meaning upon experience.
>
> (Geertz 1973:45)

To depict the psychological basis of literacy, not as a genetically determined cognitive domain, but as a capacity to perform symbolic operations, means that, instead of a precise 'literacy programme', its development requires no more than a prior set of minimal 'boundary conditions' (cf Taylor 1970:59; cf Toulmin 1980:277), whose more precise specifications emerge as a result of participation in

contextually appropriate forms of activity. Human development cannot then be clearly separated into a (basic) biological/genetic programme and its (surface) contexts, since the two interpenetrate and shape each other. In ontogenesis it will mean studying the ways in which children come to participate in specific kinds of culturally organized activities and institutions (cf Taylor's view above, §4.4.1). In phylogenesis, it implies "taking the person-in-his/her-environment ... as our point of departure" (Ingold 1995b:17), dissolving the boundary between 'natural' and 'cultural/historical' phases of evolution ("the source of so much trouble and misunderstanding"; ibid.), and permitting the incorporation of culturally elaborated (notably, symbolic) activity into cognitive development. Where Chomsky's internalist hypothesis for mathematics (and, by implication, other capacities, including language) envisages that it simply emerged "at some stage in human evolution" (Chomsky 1980:129; 1988:184), prior to, and unmotivated by, any specific evolutionary (still less cultural) need, the 'mediated' view implies a constructive relation between the rise of the external symbol system in cultural practice and the evolution of mental capacity. What remains mysterious and arbitrary in the Chomskyan picture (including even the appearance of the fundamentally 'human' use of language for communication) is seen to be intrinsic to the emergence of specific cognitive capacities through the use and gradual refinement of external means to think with.

7.1.3 Cultural mediation in evolution

> It is a moot point whether the human hand created the human brain, or the brain created the hand. Certainly the connection is intimate and reciprocal.
>
> (Whitehead 1932:78)

Clifford Geertz has developed this account in relation to human evolution (Geertz 1973:ch2). Since, he maintains, the evidence shows that the interaction of man's biological capacities with the socially defined environment has occurred from the very earliest times, it is impossible to point to any moment of transition - "some mental Rubicon" (ibid.:47) - from natural evolution to the possession of culture, from genetic to historical development (cf also Toulmin 1972:457-9). Yet just such a transition is presupposed by stratigraphic models of human nature (cf ibid.:37). According to Geertz, emerging patterns of culture themselves shaped the world to which man had to adapt, so that, for example, increasing use of tools, the changing configuration of the hand and the expansion of the cortex must be seen as inseparable and mutually reinforcing processes (ibid.:48). In this sense, culture is an inescapable condition of human existence. One of the most striking differences, he notes, between new-born human offspring and those of less complex organisms is the incompleteness with which the central nervous system of the former determines their behaviour (ibid.:75), suggesting that increased autonomy and complexity of nervous system activity go together with a diminution in the degree of intrinsic, structural control it is able to exert (ibid.:76), a deficiency in genetic wiring that is supplied by cultural resources. These resources must therefore be regarded as

basic constituents of mental activity. "Like the cabbage it so much resembles, the *homo sapiens* brain, having arisen within the framework of human culture, would not be viable outside of it" (ibid:68). A particular resource that Geertz singles out is the use of systems of significant symbols - culture, he suggests, is the totality of such systems (ibid.:46) - that mediate between our genetic capacities and our precise behaviour.

Symbol use is commonly taken to define the 'authentically' human. According to Foucault, in the classical episteme "it is the man-made sign that draws the dividing line between man and animal" (Foucault 1970:62); Cassirer also defines man as "*animal symbolicum*" (Cassirer 1944:26). Whereas in the autonomous account this transition is viewed as instantaneous, perhaps the result of some individual's brilliant invention;[2] or, as in Chomsky's version, of a biological accident, the culturally mediated view denies that any symbol could be produced in isolation, for, as Bryson comments: "only between individuals does the medium of the sign take shape" (Bryson 1983:51). Indeed, the 'human' already presupposes symbolic activity; in evolutionary terms, its emergence was gradual and dialogical, permitting no division between symbolic systems and the cultural practices in which they arise. According to Ingold:

> Human capacities are not pre-specified, in advance of development, by virtue of some innate endowment ... . Rather, such capacities arise as emergent properties of the total developmental system constituted by virtue of an individual's situation, from the start, within a wider field of relations, including, most importantly, relations with other persons.
>
> (Ingold 1995b:16)

7.1.4 The role of symbols in thought

7.1.4.1 Semiotic mediation

This view of the indivisibility of mental and semiotic activity underpins the 'ideographic' approach to the written language (cf chapter 2); the sign is not simply an external recording device for prior meaning, but the meaning itself (cf Bloch 1989:33-4; §7.2.3). It also agrees with Cassirer that the symbolic form of communication and its thought content are mutually defining:

> The sign is no mere accidental cloak of the idea, but its necessary and essential organ. It serves not merely to communicate a complete and given thought-content, but is an instrument, by means of which this content develops and fully defines itself. ... Consequently, all truly strict and exact thought is sustained by the symbolics and semiotics on which it is based.
>
> (Cassirer 1953:85-6)

It is not just the externalizing of thought in symbols that leads to cognitive change: it is the fact that the symbol system is the only means by which particular kinds of thought, including those concerned in epistemology itself, become possible, "our sole way of 'making' reality and synthesizing the world"

(Gardner 1982:44). Every advance in the formulation of the concepts of exact science has been accompanied by the refinement of its symbol system, by means of which the mind has been carried far beyond either what is 'given' to the senses or available to the neonate. For example, although, before Newton and Leibniz, many separate questions were recognized that were solved by the invention of differential calculus, these problems were only fully understood once they were given a symbolic expression which revealed how they could be related (Cassirer 1953:109-10). The externalizing of thought in a symbolism is not simply the representation of its pre-existing form, but a 'discovery procedure' by which new mental operations become possible (cf discussion of the compass rose, §4.4.2 above).[3]

7.1.4.2 The cognitive view

The boundary between thought and symbol, which cognitivism enforces, cuts across human activity in such a way as to make its normal workings obscure. When Fodor imagines a situation in which a man turns his watch upside down to remind him to send a message (1975:203), he takes the connection between seeing the watch and remembering to send the message to be causal, hence "not a kind of connection that cognitive psychology has anything to say about" (ibid.). This is because it has no propositional content, nothing to do with the internal computation of meaning as it would if the man's friend had told him to send the message. "From the psychological point of view, the existence of such relations is simply a matter of brute fact; explaining them is left to lower-level (presumably biological) investigation" (ibid.). The escape into 'biology' leaves the relationship between symbol and action empty of content and divorced from the culture in which such acts acquire meaning. Indeed, part of the problem with this example is that it separates this private act from the vast network of culturally established symbolic activity (including language itself) in which all humans engage, as if explanation were only required for instances of the former kind.

In the mediational framework, the watch enables the man to extend the power of his unaided memory, and in this (albeit highly circumscribed) sense transforms and externalizes his activity of remembering. In this respect, its use connects it with such devices as the *quipu*, the mnemonic system of knotted cords used in ancient Peru (cf Goody 1987:54). Indeed, graphic signs function in similar ways in inscriptive practices, although with vastly extended potential for manipulation and exchange. Human cognitive activity is, in fact, mediated by use of the whole variety of such tools, and the culturally embedded techniques associated with them; not just as private symbols in an internal code, but as intersubjectively constituted ways of constructing meanings and understanding.

7.2 Semiotic mediation in individual development

7.2.1 The sociohistorical construction of the mind

The limitations of the ahistorical view of mind are most apparent in relation to its account of mental development, where, by failing to admit the role of cultural artefacts, it is obliged to explain the transition from simpler to more complex conceptual systems without adding anything to the mind's innate conceptual capacity (cf §4.2.3). The alternative, proposed by Bruner and others, derives from the work of Soviet psychologists, notably Vygotsky (see particularly Vygotsky 1978, 1986; also Wertsch (ed.) 1985), who have sought to work out the consequences of a Marxian concept of the relationship between consciousness and practical activity (cf Lee 1985). In contrast to western traditions, this research has taken as its premise the belief that the individual is socially formed; more accurately, that society and the individual constitute each other in a single dynamic system (Cole 1985:148).

Vygotsky set out to explain how the complex, specifically human 'higher psychological processes' developed from elementary biological ones, to which, contrary to behaviourist orthodoxy, he maintained they could not be reduced (cf Vygotsky 1978:ch6; Davydov and Radzikhovskii 1985:59). In the theory he developed, the transition is mediated by cultural forms, above all those of language, which the child encounters in social interaction (first of all with parents and siblings) and, in the course of development, internalizes. Where for Geertz no sense attaches to the notion of man without culture, for Vygotsky there is no such thing as individual psychology independent of social context, for it is there that psychological functions first appear: "the true direction of the development of thinking is not from the individual to the social, but from the social to the individual" (Vygotsky 1986:36).

Others have also called attention to the extent to which mental life is a cultural construction that therefore requires to be learnt. Ryle makes the point, against the standard assumption that silence and interiority are defining properties of thought; and, like Vygotsky, he implies that its development is as much a feature of cultural history as of individual development:

> This trick of talking to oneself in silence is acquired neither quickly nor without effort; and it is a necessary condition of our acquiring it that we should have previously learned to talk intelligently aloud and have heard and understood other people doing so. Keeping our thoughts to ourselves is a sophisticated accomplishment. It was not until the Middle Ages that people learned to read without reading aloud. Similarly a boy has to learn to read aloud before he learns to read under his breath, and to prattle aloud before he prattles to himself.
>
> (Ryle 1990:28)[4]

Toulmin likewise argues that the inwardness of mental life is acquired rather than given: "Even the simplest of our mental tasks and procedures are at first performed overtly and publicly; they become parts of our inner lives only because they are subsequently internalized" (Toulmin 1979:6). This process, he contends, is always motivated - for example, by an increase in speed, or economy of effort, etc. - as in the historical transition from oral to silent reading (ibid.). Saenger's analyses, already mentioned, have helped to show how, in this case, the possibility of silent performance was the result of a specific change (the introduction of word separation) in scribal practice (cf §8.1.2.1 below). Such examples illustrate the necessary relation between changes in technical means and the nature of human cognitive capabilities; a relation which, for Vygotsky, is axiomatic.

7.2.2 Learning and individual development

In the Vygotskian view, growing to psychological maturity means, in effect, learning to use and internalize the historically and contextually specific 'tools for thought' made available through the culture. Like the use of tools in phylogenetic development, it is this that enables the individual to progress exponentially beyond his bare biological initial conditions. It is not that the tool simply assists an action that could have occurred without it; as Wertsch puts it: "the inclusion of signs in action fundamentally transforms the action" (Wertsch 1991:32).

For Cassirer, the theory of the mediating sign offered a way out of the opposing philosophical errors of empiricism and idealism; for Vygotsky, semiotically mediated psychology held out an alternative to their psychological counterparts, namely (behaviourist) belief that the mind is a mere attribute of physical behaviour; and (idealist) belief that its nature is pre-specified and *sui generis*, accessible only to introspection. In Vygotsky's view, "consciousness is neither reducible to behavior nor separate from it, but is instead an attribute of the organization of practical activity" (Lee, op. cit.:68).

In individual development this then assumes a dynamic relation between the process of learning and its content. Development does not run along biological tram-lines, but is itself dialogical (Vygotsky op. cit.:94; cf Wertsch 1985:20), propelled by culturally constructed learning activities rather than natural processes alone. Learning to solve problems, carry out symbolic operations, etc. under expert guidance extends and transforms the nature of the learners' capacities themselves:

> Properly organized learning results in mental development and sets in motion a variety of developmental processes that would be impossible apart from learning. Thus, learning is a necessary and universal aspect of the process of developing culturally organized, specifically human, psychological functions.
>
> (Vygotsky 1978:90)

The distance between (biological) development and the potential level of attainment under tuition, the space in which useful learning can occur, is what Vygotsky termed the 'zone of proximal

development' (ibid.:84; 1986:186ff). As his investigations showed, "the development of the psychological foundations of instruction in basic subjects does not precede instruction, but unfolds in a continuous interaction with the contributions of instruction" (Vygotsky 1986:184). And it is through the interaction of expert with novice, adult with child, etc., in the zone of proximal development that the process of acculturation takes place.

It is thus that the child acquires first, linguistic signs and later, particularly in formal education, symbolic systems such as writing that enable him to operate with new, decontextualized concepts. In Vygotsky's view, becoming literate thus has crucial implications for cognitive development; in particular, it turns linguistic processes themselves into objects of consciousness: "Writing ... enhances the intellectuality of the child's actions. It brings awareness to speech" (Vygotsky 1986:183; cf Olson's view; §2.4.3.2). Nor can writing be regarded as merely secondary and instrumental since instruction in writing begins when the psychological basis for it still barely exists; again there is no separating the use of the tool from the growth of the capacities it makes possible. Vygotsky therefore emphasizes its difficulty (in contrast to the 'alphabetic' view), resulting, in particular, from the lack of functional or semiotic transparency between speech and writing:

> Written speech is a separate linguistic function, differing from oral speech in both structure and mode of functioning. Even its minimal development requires a high level of abstraction. ... Speech that is merely imagined and that requires symbolization of the sound image in written signs (i.e., a second-degree of symbolization) naturally must be as much harder than oral speech for a child as algebra is harder than arithmetic.
>
> (Vygotsky 1986:180-1; cf §5.1.4 above)

7.2.3 Discussion

In stressing the cultural-semiotic construction of mental activity, it is necessary to avoid the implication that the kinds of abstract operation to which it leads in western educational systems necessarily represent the top of a hierarchy of intellectual development. Several points require to be differentiated here.

Symbolic systems undoubtedly enable cognitive operations of a vastly increased range and precision as compared with those of the 'naked brain'; use of writing may therefore result in a great expansion of individual as well as societal linguistic capacity and sophistication (cf Ong's comments in §2.4.2.5). In particular, it comes to function and develop 'on paper', making it artificial to separate "what I can consult in my head from what I can consult in my diary" (Goody 1987:219; cf Wittgenstein 1974:99, quoted as epigraph), thereby also affecting the linguistic representations that mediate speech, as well as the way in which language itself is conceived (cf discussion in chapter 2).

At the same time, the implication of Geertz's argument is that no brain is ever naked: cultures necessarily provide an array of means which make possible different kinds of powers. The identification of any single form of activity as the goal of human cognitive development is thus strictly a matter of social and cultural circumstances: our own notions of intellectual growth have been comprehensively conditioned by the autonomous text tradition and confounded with the advantages conferred by mastery of its socially prestigious genres. It is with this in mind that Wertsch advocates the notion of the cultural 'tool kit'; while reference to 'tools' should not obscure Cassirer's point that symbolic activity is not only instrumental, but constitutive of thought, the idea serves to emphasize the heterogeneity of mediational means (not all necessarily literacy-orientated), rather than any particular hierarchy among them (cf §2.4.3.2.).[5]

By reminding us that its 'contents' are determined in relation to specific material practices, the tool kit metaphor helps to dissolve the boundary between cognitive operations and cultural artefacts. The tools and symbolic systems that construct meaning and mediate thought are not acontextual but, as Bruner puts it, "already in place, already 'there,' deeply entrenched in the culture and language" (Bruner 1990:11; cf Wertsch 1985:80). Though arbitrary with respect to their referents, signs arise from, and exist in, cultural-historical contexts and are transmitted in practices and institutions (typically schools) and their associated discourse genres that establish their meanings for a community; in being educated into their use, and so coming to think with them, the learner inevitably becomes a reflection of the culture.

Mediation of human cognitive activity thus necessarily locates it in history and connects its development to the evolution of the particular tools and symbolic systems in question, so that a change in means entails a change in cognitive organization. For Bruner, it is this interdependence of mental and cultural resources that makes a purely 'individualist' human psychology impossible (op,cit.:12; cf also Wertsch 1991:ch5; cf §4.2). And, as Cole points out, as education supplies the learner with new intellectual tools, so these require contexts of use: "without contexts of use, these tools appear to 'rust' and fall into disuse" (Cole 1990:106); a point which is particularly relevant to literate practices, including reading.[6]

7.2.4 Goody: literacy and the mediation of thought

Though critical of Vygotsky's overly mentalist notion of how knowledge of writing affects the organization of cognitive operations and lack of interest in the sociocultural dimensions of literate activity (Goody 1987:216), Goody's own ('technological') notion of literacy clearly derives from the Vygotskyan tradition. "To try to define the nature of mankind in industrial and even pre-industrial societies without discussing the tools we use ... is to leave out a critical factor about our operations in and understanding of the world" (ibid.:254).

Goody applies, at the level of society as a whole, the developmental theory which Vygotsky elaborated in relation to the individual. Whereas Vygotsky focused primarily on the 'genetic' processes of individual psychological development through the incorporation of semiotic means into the organization of thought, Goody has been concerned with socio-historical changes in semiotic means, arguing that social and individual dimensions are mutually defining. For example, a case study he conducted with Scribner and Cole, of the written records kept by the administrator of a Vai Muslim brotherhood (1987:ch9; cf Scribner and Cole 1981:235) shows how the keeping of lists, summaries, rudimentary accounts, etc., enabled one man to undertake activities, particularly those involving the re-ordering of information and other abstract operations, that would hardly have been possible otherwise (Goody 1987:203).[7] In this case, the use of writing served to mediate, and so extend, various mental functions, tending to substantiate the Vygotskian view that a graphic symbol system changes the structure of such mental processes as memory, classification and problem-solving (Goody, ibid.:205).

These abilities, Goody contends, are more likely to manifest themselves in everyday contexts, as a means to some practical end, than in experiments like those of Scribner and Cole, designed to decontextualize them through the manipulation of abstract and static properties of objects. Hence, failure on tests of the latter kind does not imply that (for example) the Vai are incapable of these cognitive operations: conceptual ordering, etc. is embedded in specific activities, and not necessarily generalizable; as in other contexts, however, an individual may, through his social roles, come to influence others, thereby (eventually) widening the society's perspectives, etc. (cf Goody op. cit.:251-2). In this respect, Goody's study contrasts sharply with the main investigation carried out by Scribner and Cole.

In short, in Goody's view thought processes are mediated by the kinds of culturally evolved, symbolic activities in which literate people engage (op. cit.:221ff). A written list shapes the course of individual cognitive activities by enabling information to be operated on and reorganized in more productive, or 'logical' ways; in time, it enables categories to become established as standard cultural products and taught in schools. Or again, the sonnet is a product of literate culture, but one can learn to compose a sonnet mentally: "It is precisely this cultural input into cognitive processes that define the implications of literacy, irrespective of the mode of transmission in any particular case" (ibid.:117). Cognitive skills come to depend on specific features of literate behaviour, such as the use of textual sources, dictionaries, printed maps, etc.: and these affect not only how we operate in the world, but also the potential content and goals of our operations. Clearly such skills are not just internal processes: "When a map or a book intervene between the object and subject, we are dealing with 'mind' out there as well as mind inside" (ibid.:255). As with the mariners in Frake's study of the compass rose (§5.3.1), one should not look for purely mental correlates for these skills, since they are

defined by the activities themselves, and not by some abstract quality capable of cross-cultural definition (ibid.:252).

7.2.5 Discussion

Goody's approach avoids both the cognitivist assumption that mental processes and abilities are invariant universal attributes, and the supposition of a radical 'Great Divide' between oral and literate cultures (op. cit.:185). By revolutionizing the nature of certain tasks, inscriptive practices change the cognitive possibilities of their users. The introduction of spatial and visual dimensions to memory, for example, permits new forms of operations on its contents, unrestricted by individual mental capacity, new (notably hierarchical) organizational schemes, and a new sense of accuracy (Goody op. cit.:186ff).

Moreover, the extension to basic capacities brought about by a transition to literate practices is not merely additive, but dialectical: 'change' is itself developmental, skills change in interaction, so that, as mediated by literacy, they are no longer 'the same' skills (tasks, goals, etc.) as they were in a preliterate context. Human capacities may be universal (all normal human beings can learn to read or to drive a car, etc.); but, in both ontogenetic and phylogenetic perspectives, reading and driving are consequences of the interaction between these capacities and the technological means involved (cf Goody 1987:250), which arise only in the context of specific sociocultural conditions.

Goody's approach is to some extent vulnerable to the same criticisms as Vygotsky's. Cultural and cognitive evolution seem to be a teleological and hierarchical process in which western discourse emerges as the most objective, most rational form of thought. It appears that this form is recognized automatically by any society once literacy makes them available. It is true, cultural change depends on the mediation of those, like the subject of the case study discussed, who have access to the intellectual means that literacy supplies. Like Finnegan, therefore, Goody emphasizes that rationality is not a necessary property of all the members of a society, but perhaps only of a small elite (Finnegan 1988:28; cf also Resnick and Resnick 1977). However, it does not follow that rationality is the condition of all fully literate thought (any more than literacy should make historical statements objectively true; cf §6.2.5.3 above); nor is it certain that oral cultures necessarily lack it. Goody's approach may thus seem to privilege certain 'rational' mental processes (associated with particular textual operations; particular tools in the tool kit) as the universal goal of literate societies.

This is the aspect of Goody's work to which Street takes strongest exception, seeing in it a failure to recognize the privileged position of the western academic subgroup to which he and his model of written language belong. Since this group values written above oral transmission, it naturally sees those textual operations as 'higher' that depend on properties of the written text that distinguish it

most clearly from non-literate discourse. Single-minded emphasis on literacy also tends to obscure the importance of other, non-verbal mediational means in mental development (cf Wertsch 1991:ch5).

We could argue, with Taylor, that while pursuit of broad, theoretical accounts may be a consequence of 'our' Greek intellectual (literate) inheritance, this does not imply that other cultures (for example, the Nuer) are intellectually any less well-endowed, or their activities less valuable. But if seeking broad accounts is what we mean by rationality, and the tendency to do so is a consequence of our literate practices, then, in that sense, we are 'more rational', and rationality is a consequence of literacy (Taylor 1982). Of course, it would be mistaken to call the Nuer 'irrational', since this would suggest that they deviated from our norms when theirs might just be different. But, although there are many valid grounds for questioning it, 'our' greater level of technological control cannot be ignored. It is more important, however, to revise the (stratigraphic) notion of 'basic abilities', a biological minimum to which, by implication, oral/traditional societies are closest, which history/-culture and its means have transformed, making 'us' different in kind from 'them'. We should suppose, instead, that there never was any purely biological state (human activity is culturally mediated 'all the way down'), merely an array of cultural circumstances and different potential tool kits creating varieties of forms of life.

7.3 Conclusion

Goody outlines an explicit framework in which to suppose a dialectical relationship between cognitive and cultural (specifically, literate) forms. While his main interest, as anthropologist, is in the latter, this framework provides a useful basis for the cross-cultural study of cognitive attributes and processes, including reading, one which is potentially more explanatory than dehistoricized cognitive 'universals'. The Vygotskian argument at its centre is stated by Wertsch:

> Psychological tools are neither invented by each individual nor discovered in the individual's independent interaction with nature. Furthermore, they are not inherited in the form of instincts or unconditional reflexes. Instead, individuals have access to psychological tools by virtue of being part of a socio-cultural milieu.
>
> (Wertsch 1985:80)

Literacy permits its possessors to operate symbolically on the world; operations which, in turn, modify subsequent thinking and learning, the development of written genres of discourse, and (ultimately) the patterns and institutions of communal life. This, therefore, provides the basis for the 'contextual' approach to reading developed in the following chapter.

8. READING AND LEARNING IN PRACTICE

> The sign and its social situation are inextricably linked.
>
> (Bakhtin 1977:63)

8.1 Introduction: the social context of reading and learning

8.1.1 Introduction: the concept of practice

The implication of the mediational argument presented in the previous chapter can be summarized as follows:

i) that, despite the attempts of the 'autonomous text' tradition to establish the final truth of its representations, no representation stands outside cultural practice;

ii) that the mental world is saturated by cultural forms, which therefore require to be understood in their cultural and historical specificity;

iii) that "culture and the quest for meaning within culture are the proper causes of human action" (Bruner 1990:20);

iv) that cognitive development depends on interaction in the social sphere, and participation in an increasing variety of formal and informal activities and institutions (cf Rogoff 1990:11), including those associated with the written sign.

According to this approach, the 'internal'/'external', competence/performance opposition, necessary to cognitivism, is false; it will seek, instead, "to talk about culture and psyche so that neither is by nature intrinsic or extrinsic to the other" (Shweder 1991:100).

This is the sense in which the notion of 'practice' has been introduced,[1] albeit with some variation of emphasis. Thus, as a result of their Vai study, Scribner and Cole take the view that cognitive skills, no less than perceptual, motor, and linguistic skills are intimately bound up with the nature of the practices that require them (Scribner and Cole 1981:236), and highlight the role in them of particular 'technologies' and 'systems of knowledge' (ibid.:237). However, previous discussion would suggest that the kinds of 'knowledge' involved are seldom explicitly propositional, but include those acquired through emulation, such as the accommodation of muscles to the use of particular tools (including those used in reading and writing), which shape both the physical and institutional environment in which human activities occur.[2] Instead of 'systems of knowledge', therefore, it would seem preferable to emphasize the meaning that activities have for their agents, as suggested in Besnier's definition of practices as "recurrent, socially patterned, culturally informed ways of acting and evaluating, as well as what people think they do and why" (Besnier 1995:5-6). Moreover, practices are not neutral manifestations of psychological functioning, but reflect the hierarchy of

values attached to the activities and the kinds of meaning they make possible in a given context, which may themselves often be in dispute (as between those of 'high' and 'popular' culture, etc.). Hence Ingold's notion of 'technique' would seem more appropriate than that of 'technology' in this connection. Techniques, it will be recalled, are developed in relation to specific material artefacts and circumstances, assimilated by children growing up as members of a given group through interaction with others, in close relation to ends represented as valuable, having meaning, etc., and forming a repertoire of abilities which help to constitute their understanding of themselves as agents.

This conception of thought, understanding, meaning, etc. stands opposed to the mental processes and propositional 'knowledge systems', etc. of the cognitive approach.[3] Its ultimate justification rests on Taylor's distinction (cf §4.1.2.5) between the kinds of explanation appropriate to the working of a machine, on the one hand, and to human behaviour on the other: namely, that machines cannot be said to perform 'actions' except as these are constituted with reference to the purposes of a human observer. As argued, the 'cognitive machine' is not a special case in this respect. Actions only signify within a culture which locates them in its symbolic systems, especially its genres of discourse. Such systems are produced and their signs 'framed' in the exchanges of social life, and the evolution of discursive (including literate) practices (cf Culler 1988:ix; also Sinha 1988:65).

8.1.2 Reading as practice

> In the twentieth century man is *homo legens*.
>
> (O'Keefe 1990:9)

8.1.2.1 Historical diversity

The study of literacies as forms of social practice has helped to introduce a social conception of the sign into approaches to psychological functions. However, until recently, as Fabian (1992) notes, the activity of reading itself has remained comparatively neglected. The centrality of reading to western forms of understanding has tended to mean its relegation to a merely instrumental function, easily transferred between texts, scripts and languages, and uniformly brought to bear on materials in diverse contexts. As argued, this has caused our historically and culturally specific notion of reading to be mistaken for a universal standard, and projected on to contexts to which it is foreign (sometimes with an assumption of its superiority). Even today, academic commentators may tend to ignore the variety of reading practices on the assumption that 'real' reading is cognitive, ideational, and analytic, as in their own case (cf Long 1993:192; cf comments on Goody in chapter 7). Indeed, the format of the post 18th-century printed book, its position in western education, and the role of silent reading in shaping our idea of private, self-sufficient consciousness (cf Ong 1982:153) have made it particularly hard to recognize our own reading practices as themselves historical formations (cf Stock 1993:271-2); and the preoccupation of reading research with the internal relationship

between the reader's psychological mechanisms and features of (alphabetic) printed text has done little to encourage change. In developmental work, the growth of reading is usually treated, like that of other mental functions, as the acquisition of forms of competence, according to a determinate time-table, with debate confined to the internal nature of the processes and time-table concerned, and how best to ensure their smooth operation.

Yet Steiner reminds us that:

> The existence of the book as a common, central fact of personal life depends on economic, material, educational preconditions which hardly predate the late sixteenth century in western Europe and in those regions of the earth under direct European influence.
>
> (Steiner 1972:188)

In order to understand reading as a form of practice it is clearly necessary to incorporate awareness of its cultural and historical preconditions; and increasingly such questions are becoming a focus of research in a variety of cultural and historical settings (cf Boyarin 1992; Chartier 1995; Raven et al. 1996). While we still lack the "comprehensive history of reading" envisaged by Steiner (op. cit.:187-8),[4] we begin to possess sufficiently detailed accounts of its synchronic and historical diversity to be clear that there is no single course of development, and little hope of achieving "comprehensive" coverage.

This new historical interest has promoted recognition that, far from concerning just a closed relationship between text and reader, reading involves a relation to the environment of socially framed expectations, arrangements and purposes in which it occurs. The 'propositional' reading of historically remote texts (such as those of Paracelsus, discussed earlier; §4.4.3), has been enriched by attempts to recover "the lived experience of the medieval book" (Taylor 1996:48), the modes of practice in which understanding itself is embedded, since, as Chartier, observes: "Each form, each medium, each structure for the transmission and reception of the written word profoundly affects its possible uses and interpretations" (1995:21). Emphasis is generally less on the consequences of technological changes in means, than on specific forms and implications of reading in context. Thus attention has been given to the way in which the production and use of medieval texts involved practices that were differently acquired, valued, and situated from 'ours' on dimensions of oral/-written, public/private, and vocal/silent activity, and so implied different occasions and purposes of reading. For example, Carruthers has stressed the distance between medieval and modern conceptions of scholarly activity with text, noting how the medieval scholar saw it, not as a basis on which to justify an interpretation, but as a thing to be digested, memorized by repetition, engaged with in what she calls a 'hermeneutical dialogue', and turned into a part of himself (Carruthers 1990:164;186) - as a result of which, moreover, he read comparatively little. In such contexts:

> merely running one's eyes over the written page is not reading at all, for the writing must be transferred into memory, from graphemes on parchment or papyrus or paper to images written in one's brain by emotion and sense.
>
> (ibid.:10)

In this connection Chartier (op. cit.) distinguishes between 'intensive' and 'extensive' reading: our age has shifted from intensive rumination to extensive textual consumption, the fast, silent retrieval of information impossible in the earlier context.

Saenger (for example, 1982, 1991) has continued to pursue the broader implications of specific literate practices, relating the development of a range of reading skills and intellectual activities to changes in text production and consumption. He has shown how the introduction of word separation and a more fluent cursive script allowed writers to exercise greater control over their texts as pieces of discourse, and the possibility of a more relaxed, silent reading enabled readers to read them as such. Texts became denser, remoter from the speaking voice, favouring both the development of non-sequential, analytical modes of thought and of textual means - tables, paragraphs, punctuation, etc. - designed to enable visual identification and retrieval of intellectual units. Saenger links these changes to the rise of scholastic logic, which, though not 'caused' by reading or writing, emerged from the forms of practice which they facilitated (Saenger 1982:387ff).

8.1.2.2 The specificity of practice

Such work has made clear the contextual specificity of our own modes of reading and understanding, the extent to which current notions of comprehension and reading skills are themselves inseparable from the material nature of modern text and the ends to which it is put. The western paradigm of quiet, solitary activity - "the West's most powerful icon of self-absorption" (Stock 1993:274) - is revealed as having arisen (among other things) from the properties and uses of printed text and its 'privatization' in the Renaissance.[5]

At the same time, ethnographic evidence from contemporary non-western settings, has shown that the division between the genres of spoken and written discourse established, above all, in the practices of western schooling, cannot be taken for granted elsewhere. For example, Fabian illustrates how the 'unreliability' of native transcribers of ethnographic data may arise from their unfamiliarity with the forms of 'disembodied literacy' which belong to our demarcation between spoken and written genres (cf Fabian 1993:87). As Finnegan observes:

> [Reading] conceals a number of variants between silent individual reading, reading aloud in private or (a different situation) in public, or basing a full performance on a written text, sometimes accompanied by music or dance - all equally 'natural' processes by which written texts can be transmitted, and illustrating well the way written and oral processes can run into each other.
>
> (Finnegan 1988:172)

It is only by amassing knowledge of the diversity of such practices that we can guard against assuming the universality of contemporary western norms, from which deviation is a sign of ignorance or deficiency (cf Stock 1993:271).

A practice-orientated approach to reading will naturally be sensitive to the phenomena of non-western and/or non-mainstream settings; indeed, as Fishman suggests, these may prove the most fruitful in which to understand the range and sociocultural implications of such practices (Fishman 1989:25). For example, Heath's work in the Carolinas has made clear the diversity of notions of 'reading' even within an ostensibly homogeneous western society. With respect to its privacy, for example, she notes that, for adults in the black rural community of Trackton:

> reading was a social activity which did not focus on a single individual. Solitary reading without oral explanation was viewed as unacceptable, strange, and indicative of a particular kind of failure, which kept individuals from being social.
>
> Heath (1982:98)[6]

Such accounts, involved as they may be in a complex (ultimately Rousseauan) cultural discourse, undoubtedly raise problems of their own. The rediscovery in our midst of a 'warm' world of shared vernacular values, contextualized literate practices, spontaneous, performances, etc., in classrooms or elsewhere (cf Camitta 1993), may tend, even in the act of revaluation, to reinstate a Great Divide separating these activities, labelled non-mainstream, traditional, etc., hence strictly in the province of ethnography, from 'our' rational use of texts. etc., by which they are described, and in which reading is not social, but private and cognitive.

8.1.2.3 The social construction of reading

Nevertheless, Heath makes clear the extent to which, even in socially atomized, middle-class urban settings, the experience of reading, from earliest infancy, is social. Here, however, in contrast to the expressive freedom of Trackton, or the authoritarian textualism of Roadville, it develops in a context where the dialogical construction of meaning from text is primary. The townsfolk's (i.e. our own) practices do not differ from those of the others by being more intrinsic to the nature of reading or understanding. But unlike theirs, our practices connect directly with prestigious, intellectualized forms in education and public life:

> Long before reaching school, children of the townspeople have made the transition from home to the larger societal institutions which share the values, skills, and knowledge bases of the school.
>
> (Heath 1983:368)

Even before they can speak, these children are taken to be making and expressing sense (cf ibid.:247-8). They are surrounded by, and socialized into the uses of books and writing of all sorts,

and encouraged (expected) to find meaning in them; their attention is drawn to written texts, their siblings and adults around them read and write, they are read to, their living space contains writing materials which they use in 'symbolic simulation' of purposeful inscriptive activity.[7] For many, the first steps in becoming literate are taken long before they have developed mature linguistic or discursive abilities. Hence their reading is rarely private or autonomous, but develops (like the rest of their activity) in a context of co-operative understanding: text-related talk, discussion with other readers, and the social construction of textual meaning.

There is thus a close physical and social connection between the learning of reading practices and the establishment of their different genres (defined by Kress as "appropriate and accepted modes of organizing knowledge, of knowing, and the modes of representing perceptions and knowledge to others"; Kress 1982:123). Through participation in such symbolic activities, the child's cognitive and linguistic development are connected to the genres of discourse and modes of practice in its particular setting. Hence, having accepted the Vygotskian position that thought is semiotically mediated, we must consider not simply the function of signs 'in themselves', as if they were autonomous or led directly to intellectual consequences (the myth of the 'alphabetic' tradition), but as they emerge in the historically and culturally situated forms through which the child learns to recognize and act in its surroundings. By participating in an increasing diversity of milieux, and the genres appropriate to them, it comes to operate with the symbolic systems of its community, by means of which it constructs ways of understanding the world and extends its control over it. Moreover, the process continues throughout life, shaped by an increasing diversity of implements and social institutions; in literate contexts, this will chiefly imply the powerful institutions - schools, libraries, philosophies, etc. - of the written word,

8.1.2.4 Home and school

Central to the child's apprenticeship in the literate practices of its community will be the differentiation of written norms from those of speech, and the kinds of meaning they make possible, implicit in the transition from home to school (cf Kress ibid.:8; Scinto 1986:91). In Scinto's view, schooling mediates a progression from dialogical, oral communication to the monological, 'intellectual', written communication of the public sphere:

> School as cultural institution exploits the possibilities of the written norm and provides the essential condition for the intellectualization of the norm. The very functional features of the norm itself, its documentary and decontextualized character, contribute to this intellectualization.
>
> (Scinto op. cit.:97)

Wertsch also attaches special importance to the role of genres in educational and other institutional settings (cf Wertsch 1991:103ff); in his contextual version of Vygotsky's mediational theory, it is

these genres ("voices") that are internalized and come to regulate language and thought. Emphasis on practice here will help to make clear that this is not simply a question of forms of 'knowledge' or mental representation. Learning to be literate (and so to use and read a standard written language) at school involves accepting not just the language (frequently English) associated with disembodied sources of power in society (cf §2.4.3.1; also Goody 1987:283), but an entire pattern of significant activity: in this sense, we may argue, the privacy, discipline and posture of silent reading are all inseparable from an ability to use its autonomous genres.

It is in this light that we should understand the familiar observation that literacy is more easily learnt by children from literate backgrounds (Wells 1981; Teale 1986; Heath 1983; also review by Mason 1992). Not only will their speech approximate more closely to written forms (Goody 1987:268-9), reflecting contact with the written tradition "fed back orally through the mouths of parents" (ibid. 246; cf Carol Chomsky above, §5.3.2): their normal forms of activity and understanding will also be closer to those most valued in the wider textual community. According to Heath, as noted, such children "come to act like literates before they can read" (Heath op. cit.:256), by learning to distinguish between contextualized and decontextualized representations, and engaging correctly in the co-operative construction of meaning from stories. "Gradually, they learn to recognize how certain contexts assert the priority of meanings" (ibid.:257).

In their Bristol study, Moon and Wells (1979) found that the best predictor of literacy attainment in the third year at school was the extent to which children had grasped the purposes and mechanics of literacy when they started school; an understanding strongly associated with parental participation with them in literate activities, such as reading stories and other material, drawing, 'writing', etc., and with the quality of the parents' conversational interaction with them. These activities create an awareness of where books belong in a pattern of activity associated with the construction of valued forms of meaning, and how to engage dialogically in making sense of what is read. It is then no great step to participation in exchanges of meanings realised in the explicitly 'textual', 'disembedded' forms of symbolic practice on which western education lays greatest emphasis. Conversely, the further children's experience diverges from these forms, the harder this transition will be. For such learners, as Smith observes, "Learning to read ... involves a reorientation to and a restructuring of [their] world" (Smith 1986:273; quoted above, §1.3.8.2). It is not simply a matter of acquiring relevant 'skills' or cognitive ability, but of abilities emerging in, and mediated by, specific (possibly alien) forms of discursive practice.

Discontinuities between the experiences of literacy at home and at school have serious implications for children's ability to control and participate in the most socially valued discourses in the community. According to Wells:

> Where the skills associated with the representation of meaning in written language are not used or valued by the parents and other adults in the home environment, children will be less likely to accept the school's valuation of them, or to receive encouragement to persist with tasks that they may initially find difficult or lacking in meaning.
>
> (Wells 1981:264)

Goody and Watt, likewise, lay much of the blame for the failure of universal compulsory education on "the gap between the public literate tradition of the school and the very different and indeed often directly contradictory private oral traditions of the pupil's family and peer group" (Goody and Watt 1963:59).[8] As suggested above, assessment of reading against the norms of the school, while ignoring other types of reading understood by the community in which they have grown up, can mean that real achievement is missed (cf Bloome and Green 1984:411). Moreover, emphasis on individual development in home and school settings tends to neglect the child's participation in peer groups whose uses of literacy, including reading, may have a significant influence on the nature of the reading practices that develop (a point emphasized by Lensmire and Beals 1994; cf studies by Camitta 1993; Shuman 1993).

Yet the priority of schooled norms in urban settings has ensured that such alternatives are widely interpreted as a signs of failure. Hence, as Walkerdine (1988) argues for mathematics, simply encouraging those less familiar with abstract forms to engage in concrete, contextualized activities (for example, 'shopping games'), when the real object is to understand a numerical relation, tends to confirm their exclusion from the higher status operations.[9] Similarly, emphasis on spoken discourse or 'vernacular' reading in situations which require control of decontextualized, authoritative written genres is likely to confine learners to just those forms that distinguish them as less able, less powerful, etc.[10]

8.1.3 Alphabetic and ideographic approaches contrasted

As argued in chapter 5, it is implicit in the unmediated conception of learning that the school's practices are determined by the nature of the child's cognitive abilities and the pre-ordained sequence of their development, hence specifiable in autonomous cognitive terms. In relation to reading, the contrasting consequences of this and the practice-orientated account can be understood by reference to the distinction already drawn between the 'alphabetic' (analytical) and 'ideographic' (holistic) concepts of the sign on which they depend (cf §2.3.5; §5.1). As noted, the former depicts reading as a componential sequence of operations in a communicative process involving, first, decomposition of the writer's 'intended meaning' into its linguistic and orthographic elements for transmission, followed by their reassembly in the reader's head by comprehension mechanisms and propositional knowledge structures ('competence'). Reading itself starts with this act of reconstruction, and ends with the production of an exact copy of the original message. Coherence only emerges in the course

of the activity itself, guided by features in the text (connectives, reference, etc.) and by the reader's 'knowledge', particularly the ability to construct a mental model of a likely completion, or its potential elements. As argued in chapter 4, this conception of reading turns the ease of our everyday performance into an astonishing feat. It also turns the child's difficulty with it into a cognitive failure (cf Yuill and Oakhill 1991, discussed above; §5.3.5.2).

The 'ideographic' alternative starts from the assumption that text is coherent discourse; and that its coherence is established through its relation both to a genre (i.e. a cultural formation), and to understanding as a social practice (that is, 'making' sense). A reader then engages with a text in full expectation that it, like other texts, has a meaning, not as the writer's private possession, but publicly and intersubjectively, in a context of other texts and meanings, and (at least potentially) open to redefinition and revision. As noted, the central implication of the 'ideographic' view is that what is prior is not language or the world, etc. to be represented, but meaning itself. Moreover, this priority is not transcendental or biologically determined; it is established by the textual community, through its institutions and practices.[11]

The contrast between these two conceptions is strikingly displayed in a discussion by Mason of the role of being read to in learning to read in a mainstream American setting (Mason 1992), which depicts children as docile, pre-formed information processors, encountering language graphically encoded, testing hypotheses and gaining knowledge about it from their experience of listening to stories, but not, apparently, developing in any way as a result of participating in the activity, rather than being subjected/exposed to it:

> Children at first may be coached regarding what to listen to and look at, and how the information is connected to what they know. They may be helped to understand and interpret written language structures, and they sometimes may be given hints about word forms. they may even memorize texts that are read to them repeatedly. With this support, children build a repertoire of concepts about written language structure and strategies for remembering and comprehending texts. When the text ideas are very familiar and understandable, children may turn to analysis of the print. ...
>
> (Mason op. cit.:237)

Despite the observation (ibid.:215) that being read to is culturally specific, there is no attempt to contextualize its implications for reading (as argued, the cognitive approach offers no means to frame such a view). No reference is therefore made to being read to as an activity of the kind described above, which socializes the child into reading as both significant and valued, one in which it is rewarding to participate, in which texts are (necessarily) 'about' something, and their coherence established by social interaction (as the examples Mason discusses from home and classroom interaction with parents or teachers repeatedly indicate it is). For Mason, the consequences of being read to are treated as a matter of 'transfer' of listening skills/strategies to those involved in reading,

hence entirely concerned with the passing of units of information around the internal cognitive system, and made available (or not, in the case of failure) to the central processor. It is hard not to find such an account deficient as a characterization of the child's experience of reading, occurring as it does in a context which, above all, invites attention to its active, intersubjective dimensions.

Such considerations formed the background against which the survey of children's reading was undertaken in Hong Kong (cf §1.2.2). The remainder of this chapter therefore presents a discussion of its rationale and principal findings.

8.2 Reading and language learning in Hong Kong

8.2.1 Background

As indicated in the Introduction, the survey discussed here arose from a project to evaluate the consequences of introducing an Extensive Reading Scheme (ERS) in the junior classes of Hong Kong secondary schools. The scheme consisted of library boxes of simplified readers (mostly narrative fiction), selected, graded and supplied by the Edinburgh Project on Extensive Reading (EPER), and intended to promote the reading of large amounts of motivating material in English at an appropriate level. The books were accompanied by sets of wall charts, reading cards and other administrative materials to enable teachers and pupils to monitor the quantity of reading done, assess its effectiveness by means of comprehension questions and summary writing, and plot progress through the levels of the scheme.[12]

The survey was undertaken to assess the place of reading in the lives of its intended users, and, specifically, to indicate to what extent the ERS related to reading activities they already engaged in, concerning which little detailed information was available. The immediate motive was the institutional pressure on the project to supply quantitative evidence of its 'success'. In the light of the present discussion, it would only seem possible to claim success if the scheme could be shown to promote forms of activity that made sense in context, and could be assimilated, developed and maintained independently by its users (questions ignored by the 'technological' programmes discussed earlier).

However, as argued, the neutral framework provided by cognitive notions of acquisition from 'input', and extensive reading as 'exposure to language', has had an appeal in contexts where, for cultural and/or political reasons, the aims of language in education have ceased to be a matter of unexamined consensus, where, for example, earlier associations of reading with the transmission of the western literary tradition and its 'benefits' are no longer obviously relevant or justifiable (cf Appendix 2).[13] It was clear that extensive reading had been introduced in Hong Kong in this sense, as an adjunct to language learning, and that its cultural implications were neglected as a result. As noted, this

approach originated with West's Bengal programme, and has promoted the idea of 'the reading habit' as a neutral means of accomplishing its ends across contexts.[14] As we have seen (chapter 5), this itself ultimately reflected a general technologizing of educational methods and materials whose aim was efficient grading and standardizing of disparate populations. The circumstances of English teaching in Hong Kong, though not poorly resourced in the sense which has provided a justification for extensive reading schemes elsewhere (for example, Fiji),[15] clearly raise considerations of this latter kind (cf Luke and Richards 1982:49).

In fact, the complex social and sociolinguistic situation of Hong Kong, and the problems it creates for language policy and education, highlight the difficulty of reconciling educational decisions justified by reference to 'psycholinguistic' principles of language learning with recognition of the actual diversity of language norms and practices, literate and oral, in the lives of the population. In particular, the emphasis of the former on uniform inputs and outcomes, etc. tends to coincide with an administrative interest in efficiency and control; from which, no less certainly, actual practices constantly tend to escape.

8.2.2 Language and education

8.2.2.1 Medium of instruction

Hong Kong's colonial legacy, and its particular cultural and linguistic circumstances, have combined to produce an educational system often viewed by those involved in it as unsatisfactory, above all with respect to the issue of medium of instruction. Despite the fact that 98% of the population are Cantonese speaking Chinese, with little interest in the doings or culture of the British colonial authorities, over 90% of the secondary school population attend schools where, officially at least, all subjects other than Chinese are taught in English (Kwo and Bray 1987:99; Tsui 1992:140).[16] In a society that is, likewise for historical and cultural reasons, exam-orientated and competitive, where social differentiation is relatively slight, and upward economic mobility has been made possible by the expansion of professional, administrative, and technical sectors (Brimer 1988; So 1992:78), a society, moreover, noted for pursuit of short-term pragmatic and material ends (Sweeting 1983),[17] in which, in Baker's phrase, education is regarded as "a form of transferable investment and mobile capital" (Baker 1993:875), English enjoys a high symbolic status as the means to gain access to tertiary education and a 'white collar' career. Thus, despite the apparent advantages to be derived from enhancing Chinese medium education, proposals to do so have received little overt popular support, with numbers attending Chinese Middle schools in steady decline (Tsui op. cit.; Kwo and Bray op. cit.). Despite the approaching transfer of authority to Beijing, Mandarin has not been widely taught (offered in less than 35% of government schools in 1993, according to Newsweek; 1993:262), and Chinese literacy tends to receive little support in the home (Tung 1992:126; cf below).

The system, originally intended to create an English-speaking administrative elite, thus remains highly divisive, favouring those who are already members of the English-speaking classes and have access to the 'genuine' English medium schools. Moreover, since, according to Gibbons, materials and methods are largely similar in schools of all types, the relatively greater success in English of students at the elite schools is probably a reflection of their social proximity to the dominant group (Gibbons 1984; the ERS survey discussed below revealed the extent of this advantage, even among the not entirely typical schools included in the sample).

Nevertheless, the problems to which this gives rise, and the solutions proposed, tend to be framed in terms of psycholinguistic principles, for example, those of the 'Threshold Hypothesis' and 'Linguistic Interdependence Hypothesis' (Cummins 1979), derived from experimental work in quite different (mostly American or European) settings (cf discussion in Tung op. cit.). Much emphasis is also placed on the need for students to receive sufficient 'exposure' to English, which, as Tung argues, offers justification to those seeking to maintain the English medium of instruction, but also tends to be accepted by those who want to see greater use of Chinese, and look to other sources to make up for the loss of English in the classroom. This, in fact, is the reason for the unusually high level of interest in programmes of extensive reading. Before pursuing these points, however, it is necessary to outline the existing linguistic context and its implications a little more fully.

8.2.2.2 The language situation

The linguistic situation in Hong Kong schools is described as trilingual (So op. cit.:80), in the sense that:

1. English is the official medium in the majority of schools, as in the legal system and government (although schools differ widely in the extent to which English is actually used; Budge 1989:535);[18]

2. The medium of written communication is Modern Standard Chinese, based on Mandarin, with many features derived from classical Chinese, and numerous other differences of grammar and vocabulary from the spoken language of Hong Kong (cf Tung 1990:531-2); as such, it is unfamiliar to most students beginning their secondary schooling, including those attending Chinese medium schools (So ibid.);[19]

3. For the majority, the mother tongue and everyday spoken language is Cantonese, which has traditionally been seen as a dialect of Chinese and (hence) inappropriate for use in writing.[20]

In certain respects, therefore, the role of English resembles that formerly played by Latin in European education (cf §2.4.2.3): essentially a written language, no student's mother tongue, and remote from their everyday culture and interests, with the added remoteness of a different writing system and absence of historical relation to the local vernacular. Like Latin, moreover, English is the

recognized means to achieve academic and other advancement, a fact well understood by students (Yu and Atkinson 1988b:313). The distinction between the ('low', unwritten) mother tongue and the two 'high' varieties, authoritative and textual, with long literary traditions, is also reflected in lines of societal differentiation; Luke and Richards apply Fishman's concept of 'diglossia without bilingualism', since individuals tend to be monolingual within their respective groups, with bilingualism restricted to specific domains (Luke and Richards op. cit.:51).

Unlike Latin, however, English is the official medium in a system of mass education, in an already highly literate, script- and print-orientated society, where it is in competition with powerful local and regional forms of media and cultural activity (Gold 1993). And, though the very fact of its linguistic remoteness may enable it to function as a neutral medium of communication (cf Budge op. cit.), its association with the colonial authorities and Anglo-Chinese status inevitably tends to attach social and political implications to its use.

For most school children, with the exception of those who use English extensively at home, the contrast between the home and school is thus embodied in, and accentuated by, a difference of language; between an (often officially disparaged) mother-tongue and the powerful, but essentially foreign, written forms of public discourse.[21] They therefore face the difficulty of making the transition to the use of these decontextualized school genres in a foreign language, and, at least in the case of English, chiefly in the classroom. This could be expected to increase difficulty at the point of transition from Cantonese medium primary school to the more text-based environment of 'English' secondary school; and to be felt most acutely by those students whose out-of-school experience provides least contact with these more prestigious forms. As in Heath's study, therefore, it is likely that what may be represented as 'failure' in terms of the standardized indices of the school, ought instead to be seen in relation to the different oral and literate practices with which the students are familiar (for a breakdown of out-of-school contact with English by socioeconomic group, cf Appendix 6, Table 18).

8.2.2.3 Perceived failure

Yet perception of educational failure is, understandably, widespread. Tsui refers to the "substandard" quality of much classroom English, which, as she comments, given the scale of the system, is hardly surprising (op. cit.:143). With regard to its structural emphasis, Tongue and Gibbons describe English teaching in primary schools as "800 hours ... of excruciating boredom" for the majority of pupils, from which they emerge with, at best, rudimentary knowledge of the language (Tongue and Gibbons 1982:65). This is borne out by a study by Williams and Dallas with first year secondary school pupils, in which 91% were found to fall below 'frustration level' for reading a standard Social Studies textbook, as determined by a cloze test (Williams and Dallas 1984). It is generally agreed that standards of English for the majority remain below a level that would enable them to function

independently in that medium, so that its exclusive use in schools may tend to hinder students' normal academic progress. Yu and Atkinson (1988a) support their argument for a change to Chinese medium with a study demonstrating the linguistic, hence also intellectual, limitations of secondary school students' written discussions in English as compared with their treatment of the same topics in Chinese. Moreover, standards are perceived as declining, with the emigration of many anglophone Chinese prior to the transfer of authority, and corresponding reduction in the use of English in everyday life. In some quarters, fear is expressed that, as a result of the present arrangements, many children are being left incompetent in any language (cf Newsweek, op. cit.:261).

In an effort to overcome the generally low levels of proficiency, teachers (again, like Latin pedagogues before them) make frequent use of code mixing and mother-tongue cribs. 'Mixed code' is regarded as a practical solution for the majority of nominally monolingual schools, with English confined to formal, text-related activity, chiefly the preparation of textbook passages for homework, while the discursive frame of classroom talk, explanation and interaction around it is provided in Cantonese (Tung 1990). This, moreover, has the effect of reducing differences between English and Chinese medium settings (So op. cit.:84). As So observes, code mixing, even if frowned on, is a natural phenomenon in bilingual situations (ibid.:87). Yet, seen in the psycholinguistic terms of the language medium debate, in which the goal is universal 'competence' in English - i.e. knowledge of the language system - mixed code appears to be both a sign of failure and one of its contributory factors. According to this view, the appropriate response to declining English standards is provision of greater quantities of motivating and accurate 'input' in the classroom (perhaps combined with an emphasis on freer, communicative methods). Considered as 'input', mixed code is self-evidently defective, to be eliminated, if necessary, by administrative fiat. The debate surrounding these issues has inevitably become highly controversial, as contributions to Luke (1992) testify.

8.2.3 The role of extensive reading

It is in this (technological) sense that extensive reading schemes have been widely introduced at both primary and secondary levels (Kwan 1988; Yu 1993), as a means of increasing pupils' exposure to English;[22] effectively, therefore, as a means of by-passing the delicate social and cultural implications of the language issue. It is not in question that such schemes can provide material that is both accessible and appealing to learners in this age-group, and allow them, in favourable circumstances, to select material best suited to their own level and interests. However, in contrast to traditional settings, such as that of the Vai study, with its relatively few and functionally limited literate practices, or that of the rural school pupils in the Fijian programme of Elley and Mangubhai (§5.4.1), the world in which these children grow up is saturated with writing, its landscape is covered with the written sign, its activities are in large part structured by, and dependent on, differentiated uses of graphic, print and other media.[23] As such, reading is at once more familiar and

less recognizable, part of the taken-for-granted condition of life. It would therefore be unrealistic to expect a reading scheme or its consequences to be 'the same' across such contexts, or the observation that 'schools with large libraries produce good readers,' (cf Elley and Mangubhai 1983:56), with its assumption that it is schools that produce readers, to be reproduced with regard to school, or any other single factor, in these circumstances. The difficulties to which this technological view can lead are well illustrated by the 1986 pilot project undertaken by the Institute for Language in Education (ILE), which sought evidence for the 'consequences' of extensive reading in quantitative terms.

8.2.3.1 The ILE pilot study

This study, involving nine schools of different types (both English medium and Chinese medium) over two years, was designed to assess the suitability of introducing an extensive reading scheme to enhance the learning of English in junior secondary schools (ILE 1988:6). Following the work of Elley and Mangubhai, it sought to show (i) that an extensive reading programme would lead to improvements in reading skills, as measured by standard reading tests; (ii) that this improvement would affect other English language skills; and (iii) that there would be a 'transfer' effect to the pupil's first language (ibid.). In an attempt to measure the effects of extensive input, it was also hoped to find a correlation between the number of books read during the scheme and subsequent test performance.

Results were mixed; while high ability groups made significant gains on the standard reading measures, others performed marginally less well than controls (ibid.:23). Neither numbers of books nor numbers of extensive reading lessons were significant predictors of post-test performance (ibid.:24-5). With the exception of the Chinese medium schools, experimental classes generally performed less well than controls on attainment tests of the other skills, apart from guided writing, where their performance was approximately the same (ibid.:28; Appendix 12). Nor was there evidence for the transfer of any improvements to the mother tongue (ibid.:29).

However, the quasi-experimental rationale enabled this apparent failure to be attributed to extraneous factors. In particular, the books supplied were too difficult for many; in these cases, therefore, the conditions for 'reading as exposure' could hardly be said to have been met: "Choice, circulation, and easy reading, which are essential to quantity reading, became remote and immaterial for pupils of lower ability", without which there could be no chance of achieving "the book flood effect" (ibid.:35-6).[24] Moreover, time for the scheme had been created at the expense of other aspects of the English syllabus (ibid.:29).[25] And, as the object was simply to increase 'exposure', ERS lessons had been devoted entirely to silent reading, which had created predictable discipline problems (ibid.:31); teachers were therefore strongly in favour of including a class reader to enable some exchange of ideas in class (ibid.:42). Yet despite this, and the organizational demands it made necessary, teachers and administrators were said to be broadly favourable (ibid.:30); moreover,

crucially, it was concluded, "the value of extensive reading in learning another language is so well accepted by the teachers and the pupils involved" that "ideological commitment" to it was deemed to take precedence over particular drawbacks in the pilot scheme (ibid.:38).

8.2.3.2 Discussion

The self-confirming logic of the machine seems to have been at work here. Given the radical separation between the theoretical model and its context, no difficulties encountered in the classroom could call its effectiveness into question, or suggest that they might be inseparable from this particular conception of the scheme itself. Though there is no reason to doubt its success in some cases, the depiction of young readers as processors of slabs of graphically encoded input takes no account of their socially or culturally differentiated experiences of reading, or of their ability to treat texts, presented in English without support, or any context of dialogical exchange, as potential sources of meaning (cf discussion of Mason above). It is to be expected that the scheme would favour those students to whom this kind of reading was already familiar, especially those from socially advantaged, English-orientated backgrounds. However, the 'exposure' model turns reading difficulties, failure to read, etc., into matters of individual linguistic or cognitive capacity, and/or motivation, hence an individual problem to be 'remediated', or an enthusiasm to be stimulated, not one of specific sociocultural conditions that require wider understanding (cf Cook-Gumperz 1986:41).

Such considerations, and the decision to press on with the ERS in this form, therefore pointed to the need to examine the role of English, and Chinese reading in students' daily lives, not as an issue of psycholinguistic competence, but in relation to their usual forms of cultural experience and practice. This resulted in the survey of students' uses of reading in English and Chinese discussed below. Though no substitute for detailed observation, it was hoped at least that it might serve to focus greater attention on the complexity of the issues involved.

8.3 The ERS survey

8.3.1 Aims

The ERS survey sought to establish the extent to which reading promoted by the ERS related to students' existing reading practices, on the assumption that, whatever the view of its administrators, the scheme would be seen by its users as a reading activity, in the context of the other such activities. Accordingly, it set out to describe:

(1) the place of reading in the lives of the users of the ERS;

(2) the role and extent of the home support it received;

(3) the extent to which reading in English reflected existing practices in Chinese (i.e. 'transfer' at the level of social practice, as suggested by Scribner and Cole, rather than of mental ability);

(4) the extent to which reading in Chinese and English was related to perceived language difficulties;

(5) reaction to the ERS in the first year of its operation.

It was expected that, as surveys in other contexts had shown, socioeconomic and gender differences would be associated with differences in reading habits and abilities (for example, Maxwell 1977; Southgate 1981; Gorman 1987; also Downing 1981); these therefore formed the principal dimensions of the analysis (for details, see Appendix 4(d)). As indicated, it was also supposed that the transition from primary to secondary school would be significant with respect to a shift in relative emphasis on written (autonomous) as opposed to spoken (contextual) discourse, hence on written English and Chinese as opposed to spoken Cantonese, etc. A further aim was therefore:

(6) to examine the changes that occurred in students' reading practices during their first year in secondary school.[26]

The topics covered are summarized in Table 9.1. (For the survey instrument itself and its background, see Appendix 3).

8.3.2 Population and design

The ERS survey coincided with the first phase of the full implementation of the scheme, which began in September 1991 in 90 classes in 19 schools; for this reason it was decided that it should be administered to the whole initial population of approximately 3,500 students. To enable changes to be detected, it was administered in two stages: half of the population (split at the level of the individual class; 1,845 students in total), completed the PRE questionnaire in October 1991, the other half (1,707 students) completed the POST questionnaire (identical in almost all respects) in July 1992. Completion took place under supervision of a teacher during a single 40-minute lesson. Since no student completed more than one questionnaire, the survey effectively produced two independent pictures of the ERS population, enabling useful and, as far as possible, valid comparisons to be made between them. Further details of the participating schools and sampling procedure are set out in Appendices 4(a) and (b).

Table 8.1: Principal topics of the Hong Kong Reading Survey

i)	**Fluency and ability**	'Ease' of reading
		Sources of reading difficulty
		Speed
ii)	**Reading styles**	Preference for silent reading/being read to
		Flexibility in relation to texts and difficulties
iii)	**Reading activity**	
	a) Reading habits	Reading preferences (by genre)
		Usual daily recreational reading
		Quantity, frequency and intensity
		Personal book ownership
		Sources of reading matter, including use of libraries.
	b) Actual reading	Current reading
		Favourite books
		Ability to name books
iv)	**Reasons for reading**	Importance of adult reading purposes (work, pleasure, etc.)
v)	**English reading at school**	Measures to improve reading in English
vi)	**Reading support/activity at home**	Number of books in the home
		Discussion of reading
		Help with English reading
vii)	**School background**	Language medium of primary school
		Existence and medium of ERS in primary school
		School
		Class
viii)	**Personal information**	Gender
		Contact with English outside school
		Hobbies, interests, use of leisure time
		Ambitions
ix)	**Home background**	Parents' occupations

8.3.3 The data

The ERS evaluation was to have included a test of extensive reading, enabling pre- and post-scores to be correlated with aspects of students' reading habits etc. as revealed by the questionnaires. In the event, the proposed test was unavailable for the first phase of scheme, and the questionnaires had to stand alone. Though, from one point of view, the absence of an external criterion against which to

assess students' self reports was inconvenient, it did not seriously compromise the purposes of the survey itself.

However, it is necessary to emphasize that the results discussed here are based on the students' responses; in this sense, its real object was less their reading activities than their perceptions of those activities, the outcome of many kinds of personal, social and institutional influence, from which, therefore, conclusions concerning actual reading must be drawn with caution. As Elley points out, such reports are typically unreliable when correlated with test scores, especially as regards questions of ability (Elley 1994:111).[27] It is also possible that their accuracy is not evenly distributed across the population, but subject to a variety of influences (including that of the questionnaire itself). Thus, the fact that only 46% of the POST sample mentioned the ERS as a source of English reading matter (when all were supposedly using it) cannot, without further evidence, be interpreted as indicating the scheme's lack of success; especially as, in relation to other sources, 46% represents a relatively high level of use (cf Table 5/30; and below). Moreover, the replication of patterns of responses between PRE and POST suggests that the size of the samples helped to ensure acceptable reliability for the relatively large scale picture it was hoped to construct. This was also helped, if perhaps at the expense of contextual sensitivity, by the simple, closed question format of the questionnaire. (Other potential limitations are set out in Appendix 4(e).)

Survey research remains detached from the practices of those it seeks to investigate. Relationships are suggested, but give little indication of causality; and tendencies in aggregates shed little direct light on the nature or circumstances of individual reading. However, as Chartier comments in relation to attempts to reconstruct popular reading in historical discourse:

> Representations never involve immediate and transparent relations with the practices they describe. All are lodged in the specific modes of their production, the interests and intentions that produced them, the genres in which they are inscribed, and the audiences at which they are aimed.
>
> (Chartier 1995:94)

The object, in this case, was to provide an outline capable of being complemented and refined by more detailed study of individual practices by those more closely in touch with them.

8.4 Results and discussion

The data discussed here are set out in appendices, as follows:

Appendix 4(c): details of the reading indices used in this discussion;

Appendix 4(d): the socioeconomic categories adopted and composition of the ERS population;

Appendix 5: frequency tables for each of the main items in PRE and POST questionnaires (identified in the text by the prefix 5/; for example, Table 5/1, etc.);

Appendix 6: other tables and figures discussed in this section (identified in the text by the prefix 6/; for example, Table 6/1, etc.).

8.4.1 Changing practices

The results reveal a complex pattern of changing reading practices in Chinese and English during the first year of secondary school. They tend to bear out the impression already outlined of a highly literate and pragmatically English-orientated environment, in which reading plays a part in most children's lives;[28] so that, in contrast to a scheme in a relatively simple setting, such as rural Fiji, the ERS could not realistically be expected, even where fully implemented, to transform the existing situation, or produce any single 'extensive reading effect'. Moreover, the data indicate considerable differences between schools; if, in some cases, use of the scheme was associated with an apparent increase in students' reported reading and improvements in their reading ability, in others it seems to have done little to prevent their decline. These points are considered further below. The following sections first discuss a number of findings relating to the context of reading into which the ERS was inserted, focusing on the changes that occurred between PRE and POST stages of the survey, which were brought out particularly clearly by the chosen design, and make it possible to form some impression of the variety and dynamic nature of the reading practices in which these children were coming to participate.

8.4.1.1 Chinese reading

Throughout the Chinese section of the survey, comparison of PRE and POST responses reveals signs of a waning of interest in reading, bearing out similar observations made at the transition from primary to secondary school in other contexts (cf Maxwell 1977; Lunzer and Gardner 1979; Greaney 1991). It is illustrated by the examples in Table 6/1. A sense emerges of students' diminishing concern, either for their own reading, or for that of people around them. Moreover, overall reading of books declines, while the reported daily consumption of 'ephemera' (Maxwell's term) increases (comics from 34% to 42%; newspapers from 67% to 72%) (Table 5/5; cf below). Both tendencies are apparent in the expressions of reading preferences (Table 5/4; Table 6/4; Figure 6/1), in which the only genres to increase in popularity in the population as a whole, as measured by numbers of

positive preferences, are comics, romance and *kung fu* stories: all others, notably factual, school-related topics, decline (cf below).[29] In Figure 6/1a the preferences are converted into z scores, which, by relating changes to the mean, give a clearer picture of the differentiation of 'light' from 'serious', and of the surge in popularity of romance (which analysis by gender shows, predictably perhaps, to have occurred almost exclusively among girls; cf Table 6/5a and 6; Figure 6/3). At the same time, students' understanding of adult reading purposes (Tables 5/19 and 6/3) reflects the pragmatic attitudes already referred to, with reading for pleasure firmly at the bottom, and little change from PRE to POST (although numbers rating it as 'very important' increase marginally; as do those claiming to spend more than 6 hours a week reading, while 5% more read for over an hour at one sitting; Tables 5/6; 5/9).

However, the apparent decline in interest is not matched by any great change in students' assessments of their reading abilities and speeds (Tables 5/1 and 5/3). Overall, there is a marginal (non-significant) fall in the number of sources of difficulty mentioned (Table 5/46); perception of 'linguistic' difficulty (vocabulary and grammar) decreases slightly, while that of 'ideas' tends to increase (Table 5/2; Figure 6/5). Analysis by gender (Table 6/6) shows that somewhat more boys than girls report difficulties in most areas covered, with the exception of 'ideas', which are mentioned by a higher percentage of girls in both samples. At the same time, there is a marked increase in preference for silent reading in the POST sample (Table 5/15), from 58% of respondents to 70%, while that for being read to declines correspondingly (32% to 22%). Table 6/7 reveals a clear tendency for girls to make these changes in both languages more readily than boys; and those who find reading easy more readily than those who report difficulty.

The general impression of increasing confidence as against declining activity is reinforced by the changes in means of the three Chinese reading indices reported in Table 6/8a, by gender and socioeconomic background. This suggests that boys tend to have a higher estimation of their own ability than girls, while reading significantly less (both PRE and POST).[30] Conversely, girls from 'manual' backgrounds show a marginal increase in actual reading, despite apparently finding it less easy. Assessment of ability may tend to be more closely connected with the expository/ideational forms of the school, with which boys generally express less difficulty, than with the 'ludic' reading activities in which these children (particularly girls) normally engage in their own time (cf the point made by Bloome and Green above, §8.1.2.4). Several other aspects of the data tend to strengthen this impression.[31]

It is generally consistent with the correlations among the three indices (Table 6/9), which show reading activity to be less closely associated with ease of reading in POST, while, with respect to home support, the association is closer. By contrast, that between ease and home support remains weak and relatively unchanging. This would suggest that the latter has only limited consequences for

the kinds of ability required (or assessed) by the school, but tends to stimulate actual reading activities, to which such ability is less relevant. (The same pattern is seen more distinctly in the case of English, with a stronger association between the indices of activity and home support; but in this case the correlation with ease of reading shows little change.) However, if, with respect to Chinese, a high level of reading ability is not decisive for developing an active interest, there are signs that those with greater difficulty may be inhibited from doing so: it is the slowest readers who read least, who read for the shortest time, and finish books least frequently (Table 6/11). In this population (which, however, may not be wholly representative of Hong Kong generally; cf Appendix (4a)), these readers are typically male, and, in the case of English, their problems tend to be magnified (cf below).

8.4.1.2 Discussion

Such changes undoubtedly reveal the effects of starting secondary school on these children's reading activity in Chinese; if some read more avidly, for the majority the new setting appears unconducive to the maintenance of any consistent interest in it. This might be interpreted as an increasing immunity to the 'reading bug' in the face of other pressures. Further consideration suggests that it would be more appropriate to regard it as part of a diversification and differentiation of reading activity, to which the children respond in various ways. In fact, the most important change is probably in the nature of school reading activities themselves, from a more oral mode in primary school, to one which stresses the silent consumption of text for study purposes, in the context of transition from mother-tongue to English, with the accompanying range of problems this poses (to which, moreover, characteristics of individual schools are clearly relevant). In these circumstances, as argued earlier, those who 'succeed' are likely to be just those who have an appropriately supportive, text-orientated background. At the same time, however, as the survey suggests, other, more popular forms tend to develop outside (perhaps in opposition to) the school, in which less obviously 'successful' readers also actively engage.

8.4.1.3 Development of English reading

There is much evidence to suggest that, for some, the decline in Chinese reading is offset (perhaps to some extent caused) by the switch into English, and suffers some loss of home support as more attention is given to the latter (tending to bear out Tung's observation; cf above §8.2.2.1). Table 6/2 presents the set of pre/post contrasts made previously for Chinese, and illustrates the general degree of difference between the two, notably with respect to references to actual books (an increased awareness that must, in part be attributed to the ERS; cf below). In addition, 10% more claim always or usually to finish books in English; and 9% more read more than a book a week (Tables 5/28; 5/29). The contrast between Chinese and English reading is also evident from Table 6/6b, where comparison of PRE and POST means of the English reading indices shows an increase in almost

every case, particularly that of actual reading and home support, and particularly among girls. The latter reflects the remarkably steep rise (by 24.5%, to 36.1%) in the number receiving English books as gifts from family and friends (as against a 2.5% decline to 12.7% in Chinese; Tables 5/10; 5/31; Figure 6/6), a change which, by its very scale, might also suggest a more specific motive (a link with a film or television programme, for example). When analysed by gender and socioeconomic category (Table 6/11a), it is clear that books are more often given to girls than boys, and, within each gender, more commonly to children in the 'manual' category. Moreover, a significant, positive (.33) correlation between 'gifts' and the index of reading activity (Table 6/12) suggests that these books are actually read.

There is a significant ($p<0.01$) overall decline in number of sources of difficulty mentioned (Table 5/48; Table 6/6; Figure 6/5). While grammar remains relatively constant, vocabulary is mentioned less, especially by boys (declining from 81.5% to 70.6%); 'ideas' change little, although, in this case, girls report less difficulty than boys (cf Chinese); and, unlike boys, fewer of them have problems with 'stories'. At the end of the first year of secondary school, it thus appears that more English is being actively read, and, with minor exceptions, is perceived as being easier than at the beginning. However, as indicated, differences between genders and socioeconomic groups emerge to a greater extent than in Chinese, with children (particularly boys) from 'manual' backgrounds expressing greater difficulty, and receiving less (albeit increasing) support. Striking evidence of this is provided by Table 6/14, which shows a 6% increase in those claiming to read for over an hour a week in the population as a whole (as against a 2% decline in Chinese); but also social and gender-related variations (further detailed in Table 6/14a), notably for boys in the 'manual' category, for whom a decline in Chinese reading is unmatched by any rise in English. These differences will be discussed further shortly.

8.4.1.4 Sources of English reading

Since the majority of this population have attended Chinese medium primary schools, and so mostly received only limited, structural English teaching, with little support for independent reading (Yu 1993), the move into an explicitly English-orientated context, and contact with a far greater variety of material in English, could hardly fail to produce increased activity; thus, as shown in Table 6/15, the most substantial gains are registered by those who have had least previous experience with reading English (indicated by primary school reading programmes); just as, for the much smaller number whose primary programme has been wholly in English (whom Table 6/16 shows to come mostly from English medium primary schools), there is a comparable rise in Chinese. Likewise, it is those reporting little experience of English reading outside class who show the most marked increase between PRE and POST in the naming of books, to a level comparable with those who claim to read English often (Table 6/17; a change also more clearly registered among those from 'manual'

backgrounds). Further evidence emerges from details of personal book ownership, which shows a slightly greater increase in English, with 23.1% (PRE) and 25.5% (POST) claiming to have more than five books (the figures for Chinese are 54.8% and 55.1% respectively; Tables 5/34; 5/14); but which, in contrast to Chinese, correlates less strongly with reading activity (Table 6/9). This is consistent with the supposition that active English readers are no longer chiefly those, presumably from socially more advantaged homes, with books of their own, but those who increasingly obtain them from other sources.

Use of book sources in general shows more marked changes in English (Tables 5/10 and 5/31; Figure 6/6). The increase in gifts has already been referred to. There is also a 10% decline (to 13.7%) in those claiming to buy English books, as against one of 4% (to 41.2%) in Chinese; and mention of friends as sources rises slightly (3.5% in English; 1.8% in Chinese), a sign of peer-group activity that is recorded by all, except boys in the 'white collar' category, among whom it declines (Table 6/13c). The ERS enters this picture ahead of the council library, as the commonest source of English books (cf earlier comments); this is likely to have contributed to the sharp drop in mention of the school library as a source, which is greater in English than Chinese (a fall of 24.9% to 23.8%, as against one of 16.3% to 49.9%). At the same time, the correlation of .31 between reported use of the ERS and use of the school library for Chinese books implies that users of the scheme include many who regard the school as a natural source of books (cf below).

The data therefore provide evidence of the centrality of the school in promoting English reading for the substantial number lacking opportunities to develop the activity at home or primary school (in this sense, tending to bear out the claim made by Elley and Mangubhai, cf §8.2.3 above); it is therefore here that the ERS could be expected to have its most immediate impact (as the original ILE study suggested; cf §8.2.3.1). However, analysis by gender and socioeconomic category (Table 6/19) suggests the importance of other influences, notably those connected with gender and peer-group activities; these therefore deserve closer attention.

8.4.2 Out-of-school reading

8.4.2.1 Reading activity and gender

There are, it is clear, signs that girls are the more active readers in this population, not only at the level of global comparisons[32] but also within schools and socioeconomic groups which are themselves differentiated; even among those specifically defined by their reading activities, such as users of the ERS.[33] Girls also appear generally more favourable towards reading in English.[34] Their increasing confidence with English stories has been mentioned. It is also evident in expressions of preference, in which, despite the same loss of enthusiasm for school-related genres already noted in Chinese, a higher level of sustained interest is maintained, especially in fiction, and most apparent

among girls from 'manual' backgrounds (Figure 6/4; Table 6/5a and b); their greater use of the ERS is shown in Table 6/19.[35]

Here, as elsewhere, these differences are likely to reflect both general social expectations concerning gender roles, and attitudes to specific reading activities; the tendency for non-productive reading to be regarded as a female occupation, hence unpopular with boys, is familiar elsewhere (cf Appendix 2; also Downing 1981). The present data indicate an association between gender and certain types of reading, with girls showing an increasing interest in books, especially in English, no doubt associated with the surge of interest in romance, and boys in Chinese comics, non-fiction (especially science) and newspapers. As noted, a higher number of girls also prefer silent reading, in both languages (Table 6/7), which seems to imply that they have achieved a greater measure of autonomy as readers than boys and are adjusting more rapidly in the direction of school/adult norms. There may also be a more general tendency for girls to prefer 'sensible', quiet and/or compliant types of activity;[36] in this respect, it is notable that (with the exception of Chinese PRE) more of them prefer silent reading than do those assessing themselves as able readers, tempting the speculation that silent reading in class may offer an alternative to more disruptive, male-dominated, oral interaction; but, in any case, suggesting that gender may sometimes play a more important role than ability in determining such matters.[37] It is also clear that, on the whole, gender-related differences are more marked in the 'manual' category, and, at least with regard to actual reading, increase over the year, with girls' growing enthusiasms not generally shared by boys.

8.4.2.2 Related to types of reading matter

The differentiation of reading along lines defined by gender and socioeconomic group is apparent in the reported daily consumption of books, newspapers and comics (Table 5/5; also Table 6/22); the last two perhaps most likely to reflect interests developed outside the school, and to be least valued there as forms of reading practice. Both genders in this population display a surprising enthusiasm for newspapers, which are read more than books by the PRE sample, and gain in popularity over the year,[38] while that of books declines. Moreover, whereas comics and books are reportedly read in both languages by similar numbers, the majority of newspaper reading is done in Chinese (cf Table 5/26). This may simply reflect a lack of contact with English language newspapers, but since it shows up in (the more hypothetical) expression of preferences, it may also involve a degree of perceived cultural distance. Table 6/21 provides an indication of the relationship among the three types of reading matter, showing the strongest, positive correlation to be between book and comic reading, while that in Chinese between newspapers and comics, though non-significant, is negative - suggesting that, at least for some, newspaper reading represents a distinct type of activity.

It is unclear what aspects of the newspapers' contents encourage almost three quarters of this population to read them.[39] However, as the correlations in Table 6/23a indicate, it is likely to involve

preferences for more factual and/or 'serious' topics;[40] moreover, to co-occur with active reading and a more positive assessment of reading ability. Seen in this light, they can hardly be classified merely as 'ephemera'. It is possible that their different elements (news, sport, music, cartoons, children's pages, etc.) appeal in different ways to a variety of readers, in a generic context that is well-established and understood in the students' homes in most sections of the community. Lack of interest in English newspapers might then owe something to the cultural and domestic centrality of the Chinese activity (although, as Table 6/22 indicates, a few are beginning to read English language newspapers (POST), more particularly children from 'white collar' backgrounds[41]). In general, however, daily newspaper reading is less strongly correlated than book reading with the home reading index (Table 6/24a), suggesting, at least to the extent that the index is valid, that it tends to occur with little specific encouragement.

Newspapers are one form of reading in which boys and girls engage with equal overall frequency; comics and books, by contrast, though perhaps belonging to the same general pattern of activity, differentiate more sharply between genders and social groups. Chinese language comics have a predominantly male readership in both the 'white-collar' and 'manual' categories (Table 6/22). Predictably enough, they are negatively correlated with preferences for more 'serious' and/or demanding genres, but positively and significantly with humour, sport, fantasy and *kung fu* stories (the last clearly marked as a popular, Chinese, male interest), increasingly also with science-fiction and technology.[42] Negative correlations with the three indices (Table 6/23a) suggest that comics are noted as preferences by those who have more difficulty with reading, who do it less and receive less home support; equally, their wider popularity is shown by the significant, positive correlation between reported daily comic reading and the index of reading activity (Table 6/24a). By contrast, English language comics, strongly associated with preferences for sport and humour, are read by both genders in approximately equal numbers PRE and POST (with a 6% decline among boys in the 'manual' category). The correlations in Table 6/21 imply a closer association in this case with book reading, which is also, as noted, more popular with girls. Moreover, with regard to books, Table 6/22 suggests that many groups (girls ('white collar') PRE and POST; boys ('white collar') and girls ('manual') POST) claim to do more reading in English than Chinese.

8.4.2.3 Reading at home

The survey thus discloses several kinds of reading differentiated both socially and by gender, at least partly originating and pursued outside the school, and involving genres and forms of activity that the school may tend to disregard. It also highlights the connection between home and peer-group and the reading that develops. Concerning the former, a picture emerges of relatively high levels of reading in the home, with the majority reporting the presence of books, and few claiming to have none at all (Table 5/34), although a higher number are reported by students from 'white collar' backgrounds,

particularly in the PRE sample (cf Table 6/20). At least 70% in each sample report reading by other members of the family, but little discussion (8% PRE; 7% POST) (Tables 5/26; 5/27a); instead, as Tables 6/25 a and b make clear, reading is mostly discussed among friends and classmates, and more commonly by girls than boys (especially in Chinese). In general, to judge from the evidence of the 'home' index (Table 6/8b), girls tend to encounter (or, at least, perceive) significantly more reading-related activity at home, as do children in 'white collar' categories. For children from such backgrounds, text, in a variety of forms, clearly already constitutes a familiar aspect of everyday activity; many have books around them at home, at least some in English, which correlations with the reading indices suggest they are used to reading. Once again, however, boys in the 'manual' category tend to register least home reading support/activity; and, although, in the case of English, it increases slightly in POST, the increase is smaller than for girls.

At the same time, considerable use is made of the public (council) library as a source for Chinese books, by both white collar and manual groups, but somewhat more by the latter (and by both genders) (Table 6/13b); among girls in this group it increases (from 66% to 70%). The pattern is similar in English, but in this case, use by 'white collar' boys also increases (from 37% to 39%), whereas for those in the 'manual' category it declines (from 43% to 33%).

English reading at home is mentioned by about 40% of the population, but is more likely to involve siblings than parents (Table 5/36a); reported help with English reading declines quite sharply for all, but is also clearly differentiated by gender and social background, with boys in the manual category reporting the least (Tables 6/26a and b). Nevertheless, as previously noted, correlations among the reading indices suggest that active reading, especially in English, is more strongly associated with home support for children in this category (Table 6/10), which may suggest that certain parents make a more conscious attempt to stimulate it; an interpretation perhaps borne out by the tendency for home support to correlate most strongly with the more 'serious' genres. The dramatic increase in gifts of English books, especially in this group, has been mentioned.

8.4.2.4 Social practice

Forms of reading may tend to differentiate between groups and between aspects of a given reader's activity at different times. For many in this population, out-of-school reading naturally takes popular and 'ephemeral' forms; the more so, perhaps, as school reading becomes increasingly study-related. In this, it appears, children are beginning to make certain kinds of reading (humour, romance, comics, newspapers, etc.), and certain forms of activity (use of libraries, discussion with friends, etc.) distinctively their own; moreover, this is not simply a matter of individual habits, but of participation in the activities of particular social and peer groups. As argued earlier, in stressing home/school contrasts, children's influence on, and learning from one another may be underestimated (cf Lensmire and Beals 1994). The existence of reading in a pattern of social rather than individual

activity is especially significant in this respect, and appears in some cases to contribute substantially to the kinds of reading that are done.

Ultimately, it is in this sense that the differences associated with gender and social background can best be understood; in which reading is a focus for other aspects of the children's lives, and contributes to forms of communal identity and allegiance that are orientated in different degrees towards forms of text and practice encouraged at home or school (that is, principally in English). Girls' apparently greater conformity to adult norms, tendency to prefer the silent reading of fiction, and greater willingness to read in English may help to bring more of them within a sphere of support and approval. Others (typically boys) who diverge from these norms may still engage in social and vernacular forms of reading, as suggested, for example, by the increased use of friends as sources of Chinese books by boys in the 'manual' category (Table 6/13c); but these are less likely to be valued by the school or general community, and may receive little encouragement. Such children will clearly face a much harder task of readjustment to unfamiliar generic forms in a foreign language. This self-confirming logic implies that the least successful in the school's terms will be most likely to show a decline in 'accepted' types of reading, hence receive less support, etc., from which a descent into perceived failure may be easy enough, accentuated by the specific linguistic and cultural difficulty associated with the foreign medium of instruction. It is indicative of this, for example, that, in both samples, those who find English reading 'very easy' report receiving more help with it than those who find it 'often difficult', even though the numbers in the latter category decline (Table 6/26c).

These dimensions of reading are generally disregarded in the depiction of it as the cause of unmediated linguistic and/or reading benefits, and which seeks to promote 'the reading habit' as a means of achieving the maximum exposure to language, from which they are expected to follow by the operation of internal psycholinguistic principles. In this account, a 'good reader' is simply one whose reading is sufficiently extensive in the desired sense, hence independent of the context of children's usual practices. It is true, as noted (§5.3.2), that the 'exposure' approach may advocate popular genres; but it does so on the grounds of the equivalence of all forms of reading matter regarded as language input; the gains it seeks are still to be measured in terms of cognitive, linguistic or reading abilities with which (from the point of view of practice) they, and their readers, may have little connection. On the evidence of this survey, however, there is no single definition of 'the good reader'; moreover, it is clear that the implications of reading as a form of practice are not suppressed for the sake of language learning.

8.4.3 Reading and the ERS

There is certainly considerable evidence of the popularity of the ERS among its reported users (although, in evaluating these results, it is important to bear in mind that, since, in theory, the whole

population was using the scheme, those who actually mentioned it could be expected to include the keenest, most self-conscious readers). For this group, nevertheless, there is a significant, positive (.33) correlation between use of the scheme and the index of active reading in English (Table 6/12); and the means of the indices show them to be relatively more active in both languages than non-users (Table 6/28a and b). These students name more books (Table 6/27), and read significantly more than reported non-users, with 46% claiming to read English for more than an hour a week, as against 27% for the latter group (in Chinese the figures are 70% and 56% respectively; Table 6/14). The difference between their levels of activity is evident in the use of book sources (Table 6/29), as is the similarity of ERS users' habits of library borrowing in the two languages. Their use of the school library as a source of Chinese books is particularly striking, and confirms its importance as a resource for such readers. Likewise, they are recipients of significantly more gifts of English books, suggesting a higher level of interest and encouragement. Though not associated with unusual levels of reading ability (the mean of the English reading ease index is in fact higher for non-users of both genders), use of the ERS tends to reflect an absence of major difficulty. While approximately equal numbers of users and non-users describe their reading speeds in English as 'very fast' or 'quite fast' (9.7% compared with 10.1%), fewer of the former are 'quite slow' or 'very slow' (29.7% compared with 40.1%). Likewise, 11.3% of non-users find English reading 'often difficult' as against only 4.2% of users.

Those identifying themselves as ERS users would like to spend longer reading, have greater choice, better access and more attractive books (Table 6/32) (the last perhaps, less an indication that they find ERS books unattractive than that, as active readers, they take greater account of such matters). As indicated in Table 6/33, wanting greater choice is negatively correlated with ease of reading, but positively and significantly (POST) with reading activity. By contrast, more non-users want easier books, for which the correlation with reading activity is negative; and have no wish to spend longer reading them. Such evidence suggests, as before, that, for active readers, perceived difficulty is not decisive; their book-reading is likely to survive encounters with harder texts. Conversely, if students are not already readers, or in a milieu which disposes them to become readers, simply increasing the range of books or time available to them (especially the latter) may only tend to heighten their disaffection.

As noted at the beginning, much of the variation in the use of the scheme and extent of students' English reading is associated with differences between schools. Its range is illustrated in Table 6/30, in which changes in reading activities for each school (in terms of numbers claiming 'never' to read Chinese or English for pleasure), are compared with use of the ERS and numbers of English titles mentioned. From this, school 11 appears to be a model of successful implementation, combining both 83% incidence of reported ERS use with a striking decrease in numbers of non-readers of

English, and an increase in titles. By contrast, although 64% of students in school 1 report using the ERS, non-readers increase and titles decline. Students in schools 7 and 17 report comparatively little use of the scheme, but register appreciable increases in the amount of reading done. Such differences serve as a reminder that the effects of the scheme in a given situation are highly dependent on other factors, mostly beyond the scope of the survey, for example, the students' previous reading and English learning experiences, the adequacy of the scheme's implementation, the nature of the school's facilities, the enthusiasms and competences of teachers, the existence of peer group pressures, and levels of parental support.

8.5 Conclusions

There are indications, therefore, that the Hong Kong Reading Scheme is most successful with those who already engage in a pattern of independent reading activities, or whose peers are developing one; who make use of book sources, especially libraries; and who find no special difficulty with reading in English; thus, particularly, with girls; with those who have previously had little opportunity to read in English, and with those in the upper ability bands (Table 6/31; cf the ILE findings, above), the last no doubt reflecting a social rather than purely academic advantage. On the other hand, it may hold little appeal for others (more usually boys) without established book-reading habits, hence those who mostly read non-fiction or newspapers; but also those who lack experience of reading at home or among peers etc., or for whom such reading involves only non-school orientated forms; who find reading, or reading in English, difficult, culturally alien, or associated with unrecognized practices and meanings (cf Wells, quoted in §8.1.2.4). For many students (inevitably, perhaps, more often those from less socially advantaged backgrounds), such influences are likely to be mutually reinforcing; in this, English language ability, as measured by standard tests, may only be one, perhaps incidental, dimension, itself a consequence of the social and cultural context of activities in which performance is assessed.

This therefore tends to expose the limitations of a technological conception of extensive reading, with goals specified in terms of abstract language and reading competence, assessed quantitatively, without consideration of the context and content of the practices among which it is introduced; which, for example, imposes silence to ensure maximum exposure (cf above §8.2.3.1), when sustained silent reading has no place in the normal activity of many students; or which proposes, as the best remedy for a "spiral of non-learning", the provision of increased quantities of comprehensible input (Criper n.d.:7). Moreover, the evidence presented here suggests that an extensive reading scheme will only be likely to introduce a measure of individualized learning (cf ibid.) once a practice of book reading has been established.

Without ensuring that extensive reading is located in a context of understood practice, it is hard to see how the scheme's programmed stages, largely designed for administrative convenience, could offer a constructive means for students in these circumstances to become active, independent readers. Instead, such an approach appears more likely to reproduce existing lines of differentiation than change them; and, at the same time, to encourage misplaced expectations and a neglect of specific pedagogy on the part of teachers.

In complex linguistic and sociocultural circumstances such as those of Hong Kong, there are unlikely to be simple methodological solutions. Rather than attempting to show that English reading or language abilities or skills develop, or transfer into Chinese, by unmediated processes, as a result of exposure to the reading scheme, the measure of its success should instead be the extent to which the reading it stimulates acquires a meaning for the students. In this respect, as suggested, modes of practice will tend to be either more or less mutually confirming and supportive, hence more or less easily assimilated.

In relation to second language learning, questions of this kind often tend to be discussed in terms of students' 'motivation'. For example, with reference to Bialystok's finding that high-school students' out-of-school activities (going to films, reading books and talking to native speakers, etc.) were the key to their success in language learning, measured on various written and spoken tasks, John-Steiner comments: "it is those students who are highly motivated (regardless of their aptitude) who engage in these highly effective strategies" (John-Steiner 1985:356). This, however, represents at best a partial, individualist view, albeit with contextual emphasis on "functional practicing". As the survey indicates, it may ultimately be unhelpful to think in terms of individual motivation (in a sense, connecting failure with its absence), since activities of the kind described are more than just manifestations of autonomous private dispositions but social by definition, framed within the practices of the peer group and wider community, and expressive of particular 'forms of life' which make sense to their participants, and part of the means by which they construct their self-understanding. As such, they enable them to encounter and assimilate the genres of the second language in a context of significant practice.

Closer attention ought therefore to be given to the ways in which a reading scheme may assist learners to turn the 'symbolic simulation' promoted by its methods into aspects of practice in this sense, involving participation, as members of a community of readers, in the use and exchange of books (etc.), and the discussion of reading. In this process, less importance will be attached to linguistic ability, abstractly conceived, than to discursive activities which allow learners, as apprentices in this community, to encounter and assimilate the language in a variety of forms (ideally, including comics, newspapers and non-narrative genres), and engage in dialogue around them; not simply to provide an opportunity for 'communication' in English, to maximize input

(indeed, the use of mixed code might also have a role here), but, under pedagogic guidance, to help them initiate the making of sense and the creation of a context of shared meanings in English as a valued, communal activity. Ultimately, as has been argued, this is a precondition for the internalization of dialogical exchange in silent reading, and its subsequent independent development.

9. CONCLUDING REMARKS

9.1 Summary

The data from the Hong Kong survey presented in the previous chapter offers evidence that the effectiveness of extensive reading in a second language depends on the extent to which readers relate it to other, familiar or desired forms of literate activity in and out of school; moreover that these are already beginning to develop in distinctive ways. This is clearly at odds with the view that the decisive factor is increased exposure to language, motivated by an easily caught 'reading bug'. The theoretical aim of this thesis has been to define an approach to reading and understanding that is better suited than notions of 'exposure', 'input', etc. to its social character which this finding implies. It has seemed particularly necessary to do so in view of a tendency, also apparent in Hong Kong, to use such notions to justify reductive, 'psycholinguistic' solutions to problems that properly concern the whole context of literacy and its role in students' lives. As noted at the outset, much therefore hangs on this choice between 'cognitive' and 'sociocultural' perspectives.

With this in mind, the discussion has appealed to Ingold's notions of 'technology' and 'technique', in order to relate them to a more fundamental contrast in western attitudes to tools, symbols and symbolic activity in general. It has attempted to show that a 'technological' notion of the 'sign as copy' - acontextual, propositional, derivative of speech - derived from standard (alphabetic) written forms, especially print, has come to form the common sense of the western (Aristotelian) tradition. This has predisposed us, among other things, to pursue representational theories of written text, and cognitive models that mirror them, assimilating the reader's understanding to the workings of an idealized representational machine. Such a view, it has been argued, affords little scope for treating the context of reading and understanding as more than the neutral stage on which these mental processes occur, or for including any reference to participants' own perceptions of their activity.

What this machine lacks, however, is an autonomous capacity to mean. Thus attempts to model the output of mental representations from it, as if this could explain comprehension itself, have been shown to be inevitably circular, always returning to the problem that it requires a human agent to understand any representation, mental or physical. On these grounds alone, therefore, quite apart from its practical consequences, it must be concluded that the 'technological' notion of language and comprehension ultimately fails.

On the other hand, no simple alternative can be constructed in a purely representational framework. Meaning and understanding are intrinsically social and expressive, etc., inseparable from activities learnt and practised as part of a culture. This insight emerges in different ways from the work of Vygotsky, Bakhtin, Taylor, and the later Wittgenstein on which the 'sociocultural' alternative advanced here is based. It therefore calls for a non-representational, 'ideographic' notion of the 'sign

as meaning' - located, rhetorical, corresponding to the Saussurean idea of language as form not substance. This assumes that writing is not derivative of speech, but semiotically independent, hence central to the way literate societies and their members know language, and to what it is they know. Through writing, it has been argued, diachronic and generic facts enter and shape the synchronic moment, and connect its users with the wider textual community.

To understand the cognitive 'consequences' of literacy, therefore, it will be necessary to reconceive cognition itself to include activities with the written sign (so understood), by which the mind and its operations are contextualized; no longer those of an automaton, but dynamic, extensible, and intersubjectively constituted. Development should then be treated as inseparable from the use of signs in social practices that give them value and establish categories of meaning and understanding for their users. This view, it has been argued, makes it possible to understand activity and its meaning from the agent's perspective, without reducing it to an internal process; it can, therefore, be applied usefully to the discussion of learning, literacy and comprehension in complex, culturally diverse situations.

As will be clear, therefore, 'technology' and 'technique' are not easily reconcilable (although, as the discussion of literacy has attempted to show, they are not simply opposed, either); indeed, the lack of correspondence between explanatory and descriptive approaches in the study of language might in some measure be a result of a 'reconciliation' that has associated the former with the domain of language knowledge, and the latter with its manifestations in use. In general, technological explanations tend to serve the interests of those (bureaucrats, educators, etc.) concerned with organizing large populations; and, in certain highly regimented situations, they may appear to 'work'. Mostly, however, as has been shown, human practices escape from such attempts, which are unfavourable (and sometimes perhaps unsympathetic) to an interest in the context of learning, or the development of contextually appropriate forms of pedagogy. The notion of learning from 'exposure' has illustrated this in the case of reading.

9.2 Implications

This conclusion has several implications for the study of reading and language learning. First, emphasis on practices in context will direct attention away from the hermetic relation between reader and text, and such private attributes as 'motivation' or 'the reading bug', to the ways in which reading acquires meaning for readers, and the kinds of activity and interaction it promotes. As the Hong Kong study suggests, it is important to provide not only a purpose for reading but also a sense of its coherence as an activity. Effective readers approach texts as already coherent in this sense; and learners' ability to do this in a second language will depend on their perception of the material

involved as fitting into a recognized genre and form of practice, hence on experience of the uses and values associated with other texts, not only at school, but at home and in the community.

Moreover, this approach will also imply abandoning the notion of transfer as an independent cognitive principle. Earlier attempts to impose idealized versions of 'our' behaviour with books on those with different practices, expecting to reproduce their cultural and intellectual value in these new settings, now tend to appear naive. Yet, as this study has shown, preoccupation with reading 'processes' and 'skills' makes a comparable mistake, by implying that their transfer is internal and instrumental, unconnected with the significance of the activities in which they are involved.

In reality, being literate implies participating in a textual community with specific genres and styles of reasoning, embodied in familiar practices and material forms. Where conditions differ greatly, little of what is understood in this sense in one such community is likely to transfer unchanged to another. Moreover, engagement in literate practices, modes of understanding, etc., may cut across other allegiances; people whose forms of life lead them, in certain contexts (for example, at home), to understand themselves as members of a particular social (etc.) group, will also have to acquire the norms of literate behaviour defined by standard educational and other institutions in society (cf Goody 1968:9). Problems of assimilation are likely to be accentuated where schooling and its discourses are perceived as being foreign to those of the local community (cf Smith 1986); especially, perhaps, as in Hong Kong, where this also involves a change of language medium. It will always be important therefore to consider how schooling, and the forms of knowledge, genres and modes of practice it produces, may transform or conflict with these local expectations. Just as Fishman suggests that "the weak are always more likely to be bilingual than the strong" (Fishman 1988:11), so it is likely to be those situations furthest from the mainstream where the greatest diversity of, and tension between, such discourses will occur.

On the other hand, it would be wrong to imply that introduction of unfamiliar cultural practices is always a matter of forcing learners' experience into an inflexible new frame; in the most fruitful cases, a given, non-indigenous practice or genre is assimilated to new, locally appropriate ends. Conversely, while many genres and types of media are now globally familiar, the survey suggests that they may still be accommodated to local patterns of use and significance. In practical terms this would imply that, where possible, the sometimes rigid prescriptions of the ERS, reflecting its bureaucratic concern to maximize input of language from text with little reference to the nature of the reading actually done by the students, should be relaxed to allow greater school- and classroom-based control over the materials used and the uses learners make of them, especially to provide opportunities for interaction and discussion around the texts. Greater importance should also be attached to the roles of the participants in reading activities, including that of the teacher, and to peer groups in creating and sustaining them.[1]

9.3 Future work

Work of the kind undertaken in the Hong Kong survey may perhaps serve to show that statistical methods need not be thought of as intrinsically inappropriate to sociocultural aims: it depends on the uses to which they are put and the inferences that are drawn from them. However, the large-scale picture they have outlined (limited in this case to a potentially unrepresentative set of schools) would most usefully be complemented by informed local ethnography, to determine patterns of literate activity among different groups, especially those least familiar with schooled expectations (identified by the survey as least likely to benefit from the ERS as presently implemented) and the uses and discussion of literacy that fall outside schooled forms. Areas of particular interest would include the differences between familiar English and Chinese genres; the relation of reading to the uses of other media, and other leisure activities, especially television; the ways in which dialogue arises and develops around different kinds of text in different situations, and the ways in which learners participate in it; the extent to which they may assimilate aspects of their reading to their own written discourse; the uses they make of other institutional support, particularly libraries; and the social- and gender-related expectations of readers.

In general, a sociocultural approach to language learning will focus on the development of forms of linguistic ability in relation to learners' engagement in specific spoken and written genres. Such development need not have a single end, or be confined to childhood, but should, given suitable conditions, involve gaining increasing command of their expressive, constructive, etc. potential by learning, under expert guidance and through interaction with others, to become an effective participant in them and the exchange of meanings they make available; in short, as Taylor puts it, by learning to take a place in the dialogue (cf §4.4.1 above). In moving towards such an approach, the introduction of a concept of 'technique' into our models of cognitive activity, and the revaluation of practice along the lines indicated, would be a valuable first step.

Notes

Chapter 1

1. The rosiness of this picture resembles that of the Spanish missionaries in South America in comparable circumstances three centuries earlier (cf Mignolo 1992:326). In the case of nineteenth century Tahiti, Furet and Ozouf refer to the "symbolic simulation of reading": the children knew their spelling books, but held them upside down (Furet and Ozouf 1982:307). The 'magical' properties of writing are described by Clammer (1976:67).

2. In a parallel case, Winch argues that it would be unjustified to claim that people were 'voting' because they went through the motions of secretly marking slips of paper, in the absence of any popular understanding of the symbolic significance of the action (Winch 1958:51); in his view, it is especially necessary to recognize this where such behaviour is externally imposed.

3. This programme was established in 1981 by the Institute for Applied Language Studies of the University of Edinburgh, based on its designers' experience of operating a reading scheme in schools in Malaysia. It is chiefly intended to meet the needs of situations lacking the resources to benefit from developments in language teaching that involve expensive equipment and/or high levels of teacher proficiency, by encouraging extensive reading and helping teachers and administrators to organize effective reading programmes (for full details cf EPER 1992).

4. By 'Discourses' Gee understands the set of integrated practices involving social interaction, talk, literate activities, beliefs, values etc., in which a given group engages, with its own history and material circumstances, for example buildings, spaces, books, etc. (cf Gee 1992:33; 1990:143ff).

5. Ingold uses the term 'discursive'.

6. The last two contrasts are not expressly made by Ingold.

Chapter 2

1. It is, however, important to avoid treating differences between spoken and written language as intrinsic to them, rather than a matter of changing conventions, reflecting changes in literate practice, kinds of text and reader, etc.

2. Correspondence at level (1) is not restricted to alphabetic writing systems. Although it may typically be thought of as a pairing of individual phonemes with individual graphemes, Vachek points out that hardly any naturally occurring written norm makes use of only this kind of correspondence: even in alphabetic systems, higher language levels (morphemes, words, etc.) are usually involved (Vachek 1973:21). This is to be expected if, as he contends, the function of the written norm differs from that of phonetic transcription. He adds that no written norm seems to be based exclusively on any single kind of correspondence (ibid.:25).

3. A typical instance of the latter is Sheridan's concern that the artificial pauses introduced by reading aloud might cause literate man to lose touch with the "natural" emphasis of ideas (Sheridan 1781:107f).

4. For philosophers in the 'designative' tradition, the same is true of language lacking ideas to support it (cf §3.3.1).

5. Trans. J. Ackrill, Clarendon Aristotle Series 1963.

6. Trans. W. Hamilton, Penguin Classics 1973:101.

7. According to Derrida, "What was once chased off limits, the wandering outcast of linguistics, has indeed never ceased to haunt language as its primary and most intimate possibility" (Derrida op. cit.:44).

8. Indeed, this is the basis of Bolinger's (1946) argument in favour of recognizing the validity of visual morphemes.

9. Vachek observes that this last problem is removed if it is assumed that spoken and written norms simply correspond at a level that is functionally feasible, which that of subphonemic features with hypothetical written counterparts clearly is not (Vachek op. cit.:35-6).

10. Concerning the latter, in Carolingian times, Auerbach comments: "anyone attempting to render the sounds of the vernacular in Latin signs was embarking on an arduous adventure" (Auerbach 1965 266-7); Howatt likewise notes the mismatch between the English sound system and the Roman alphabet used to represent it (1984:75; cf Sheridan 1761:10).

11. McIntosh quotes John Wallis to this effect: "Though, as things now are, it be very true that letters are, with us, the immediate characters of sounds, as those sounds are of conceptions: yet there is nothing in the nature of the thing itself why letters and characters might not as properly be applied to represent immediately, as by the intervention of sounds, what our conceptions are" (Wallis 1661/2; quoted in McIntosh 1956:40n1). Wallis was a mathematician and involved with completing Wilkins' project to bring certainty to philosophical and religious discourse by means of a universal character (cf Knowlson 1975:22;102); he was also author of a pedagogical grammar of English, concerned with the difficult relation of sound and orthography (cf Howatt 1984:98ff). In his *Essay Towards a Real Character*, Wilkins had likewise distinguished the historical priority of speech to writing from their contemporary relations: "In order of *Nature* there is no priority between these: But *voice* and *sounds* may be as well assigned to Figures, as *Figures* may be to *Sounds*" (Wilkins 1668:385; italics in original).

12. Sheridan's aim was to produce a dictionary with phonetic marks to tie speech and writing more closely together, assisting "Provincials and Foreigners", and at the same time fixing a standard of pronunciation, after which spelling itself would come to reflect pronunciation by a gradual process of rational change. This would have an obvious advantage, since "all mankind [is] convinced of the absurdity of considering words on paper, in any other light, than as representatives of words spoken" (1761:35-6). Its outcome was his *General Dictionary of the English Language* (1780) with such marks included.

13. Commenting on the lack of attention to the Saussurean axiom that 'language is form not substance' in the decades after his death, Uldall notes: "It is even more curious when we consider that the practical consequences have been widely drawn, indeed had been drawn thousands of years before Saussure, for it is only through the concept of a difference between form and substance that one can explain the possibility of speech and writing existing at the same time as expressions of one and the same language" (Uldall 1944:11).

14. As a matter of historical detail, McKitterick cites recent work indicating the extent to which, even in antiquity, writing and speech served complementary functions (McKitterick 1993:27; cf also Thomas 1992:56).

15. Cf Hegel's view that the alphabet perfected spoken language by making it more precise and analytical; in comparison, spoken Chinese, for example, "is notoriously imperfect" (Hegel 1817/1978:185).

16. Bloch's comment on Japanese characters (§2.1.4 above) suggests that this may also be the case with the actual writing systems, as perceived by their users.

17. The idea that practice transforms the decoding of alphabetic writing into an immediate engagement with sense, had been adumbrated by Hegel: "For us ... it becomes a hieroglyphic script, and in using it we do not need to have the mediation of the tones consciously before us, whereas people who are less in the habit of reading will do it aloud in order to catch the meaning in the sound" (Hegel 1817/1978:191). Hegel held that the alphabet marked progress away from the obscurantism of hieroglyphics (cf note 15 above), but appreciated the separability of speech and writing which enabled the alphabet to by-pass speech sounds in this "hieroglyphic" ['ideographic'] sense (cf also Hudson 1994:156ff).

18. According to Bloch, Japanese syllabic scripts, associated with women, are seen as both a proof and a cause of women's inferiority (Bloch 1989:33-4).

19. Similar consequences, in the modern world, may be expected to follow from the fact that those with access to computerized information systems come to control them and organize them to their own ends, making them least available to the least advantaged (cf Kaplan 1993:154).

20. Cf Hegel's view that the alphabet made spoken language more analytical (note 15 above).

21. According to Saenger, the Romans, whose script contained no word separation, "developed no clear conception of the word as a unit of meaning" (Saenger 1982:371), but, instead, concerned themselves with letters and syllables.

Chapter 3

1. Olson suggests Schliemann's reading of Homer, or Freud's of Oedipus.

2. Likewise, of his own period, Montaigne observed: "There is more ado with interpreting interpretations than with interpreting the things themselves; and more books about books than about any other subject; we do nothing but comment on each other" (Montaigne 1595/1925:296).

3. Morse also points to the nature of medieval text, in which marginal glosses and differences of book hand or type-face, etc. helped to create the sense of "dialogic commentary ... sometimes questioning, sometimes supporting, but always intervening" (op. cit.:232), making manifest its intertextual relations, and creating a different sense of the author's responsibility for the work. Other approaches to history and the role of the historian are discussed by White (1978).

4. A fourth theory is 'behavioural' (i.e. the meaning of a word is what people do/what speakers intend hearers to do, etc. on hearing it; cf Ogden, discussed later in this chapter).

5. Hacking notes the anachronism of speaking of a seventeenth century 'theory of meaning', since 'meaning', in its modern sense, had no equivalent in the philosophy of the time. To Locke, for instance, the notion of the 'common acceptation' of a term, central to modern theories of meaning, was not itself theoretical: his theory of 'signification' was confined to the essentially private (designative) correspondence between words and ideas (Hacking op. cit.:47ff).

6. In this sense Bryson refers to the ambition of artists to produce an ultimate resemblance or 'Essential Copy': "The image will transcend the limitations imposed by history, and will reproduce in perfect form the reality of the natural world" (Bryson 1983:13).

7. Grafton's discussion of the humanist tradition (for example, Grafton 1991) makes apparent to what extent the new scientists' view of themselves also involved a broader polemical misrepresentation of both the intellectual concerns of their predecessors and of the degree to which they broke with them.

8. The concern had hardly altered three centuries later when Ogden proposed Basic English, in Baconian terms, as a way of "getting free from the strange power words have had over us from the earliest times" by conditioning us to use unanalysed concepts (Ogden 1940:116; cf the same point argued at length by Chase 1938).

9. Cf Coulmas (1989b:21), who notes the political role of stylistic norms (uniformity, elegance, precision, allegiance to literary tradition, etc.) in establishing the identity of autonomous, written 'cultivated language'.

10. This has been demonstrated by recent debate about the intellectual legitimacy of Derrida's non-empiricist, conspicuously foreign writings (cf Cambridge University Senate 1992; Smith, et al. 1992).

11. Similar views are heard, in the present day, from conservative Arabic grammarians, for whom the language is fixed in its holy texts, so that to commit an error is to destroy the authenticity of God's word (Suleiman 1994; Gully 1994:256). In each case, ensuring a literal transcription, whether of scripture or nature, is invested with moral (if not mortal) urgency.

12. Cf also Hobbes, who thought "Metaphors, and Tropes of speech" less dangerous than ordinary words "because they profess their inconstancy; which the other do not" (1651/1973:18).

13. Moreover, the 'literal', like 'pure' science, can claim to be intrinsically apolitical. As such it was more likely to be acceptable as an aim for the Royal Society in the Restoration political order (cf Mendelsohn 1977).

14. By contrast, a century later, Sheridan sided with foreign opinion to argue that "the English are still classed ... amongst the more rude, and scarcely civilized natives of the North ... on account of the neglect of regulating and polishing our Speech" (1761:1). But, like Fairfax's, his object was to rescue it (cf §2.3.2).

15. To Locke, figurative eloquence has its beauties, "like the fair sex"; but they are to be excluded from "discourses that pretend to inform or instruct" (Locke 1690/1975:508; cf de Man 1979:13).

16. The origins of Protestantism may themselves have been associated, in part, with the 'privatization' of reading, which transformed interpretation into a personal act (cf Chartier 1989:125).

17. For example, according to evidence from signatures, only 25% of Scottish males were literate at the time of the National Covenant (1638) (Chartier op. cit.:112).

18. Rutherford notes an ambiguity in Leibniz's work between (i) the [Baconian] ambition to create a 'real' character, in itself capable of representing the set of primitive concepts, and therefore combining to express the totality of human knowledge; and (ii) the more abstract aim of representing merely the relations between concepts (not their contents) in some arbitrary symbolism (or calculus). While the former remained an ultimate goal, Leibniz came to see the latter as more possible to realise.

Chapter 4

1. Cf Quine's modern statement of the same idea: "The quest of a simplest, clearest overall pattern of canonical notation is not to be distinguished from a quest of ultimate categories, a limning of the most general traits of reality" (Quine 1960:161).

2. In this discussion, 'cognitive approach' and 'cognitivism' are used to denote the commitments, priorities and modes of explanation characteristic of a research programme, rather than the beliefs of particular individuals who differ with respect to the extent to which they accept the strongest versions of its premises.

3. To these could be added (as their precondition) the dualist assumptions that, in some form, mental and physical phenomena are distinct; that the world exists prior to its representation; likewise, that "the material to be transmitted [in communication] exists prior to the work of transmission" (Bryson 1983:11).

4. Moreover, this is not simply the latest metaphor for mind: if the criterion for any psychological theory is that it should be expressible in a logical symbolism that can be mapped on to the states of a Turing machine, it must actually be the last (Johnson-Laird op. cit.:10).

5. Cf Davidson's ideal semantic theory "that makes the transition from the ordinary idiom to canonical notation purely mechanical" (Davidson 1967:115).

6. The question is to what extent this translation can be accomplished without loss of meaning; both Ogden and Richards apparently believed that it could (Wolf 1988:100). However Richards expressed reservations about its precision: "[Basic] is more like a hammer than a nutcracker. It cannot be guaranteed to extract meanings from sentences undamaged. It is useful in cracking hard shells, but we have to learn how to use it. ... We learn how the kernel of meaning is related to its verbal container" (Richards 1943:94). Like the seventeenth century language reformers, Richards opposes (opaque) visible form to (clear) hidden content.

7. For the logical positivists, translatability into propositional form was the criterion for separating sense, backed by the verifiable structure of external states, from non-verifiable metaphysical statements - the majority of human utterances - which were thereby consigned to "the rubbish heap of the nonsensical" (Ayer 1985:130).

8. Thus, Chomsky claims that "the principles of universal grammar are exceptionless" (Chomsky 1988:62); and that "there is reason to believe that the computational system is virtually invariant" (Chomsky 1995:15); different languages make use of "... a near invariant computational procedure" (ibid.:17); with respect to semantics "we find that interpretation is guided in fine detail by the cognitive system in ways that we expect to vary little because they are so remote from possible experience" (ibid:23). Without such invariance, in this view, the very possibility of mutual understanding would be in jeopardy (cf §4.2.3 below).

9. For Chomsky, depiction of the mind as a *tabula rasa* may serve to legitimate authoritarian forms of conditioning (1980a:270f). Yet the concern with the deceptiveness of words shown by the empiricist tradition from Bacon to Ogden (cf chapter 3) manifests the same wish to protect the individual from dangerous or irrational forces. Thus, Locke warns against the potential misuse of the appeal to innate principles: " ... Nor is it a small power it gives one Man over another, to have the Authority to be the Dictator of Principles, and Teacher of unquestionable Truths; and to make a Man swallow that for an innate Principle, which may serve to his purpose, who teacheth them." (Locke 1690/1975:101-2).

10. Harré questions Fodor's exclusion of natural language from cognitive processes: "Until it has been shown that for an English native speaker the medium of cognitive processes cannot be English, the introduction of a 'computational enigma' is gratuitous" (Harré 1983:20-1; original emphasis).

11. Harris makes this point in relation to the treatment of gender in the Port Royal *Grammar* (cf also chapter 6 note 13 below).

12. It is closely interwoven with the ideology of homogeneity embodied in the statistical fiction of the 'normal individual', Ryle's "elusive insubstantial man" (Ryle 1990:19), whose invention enabled the norms and practices of the American middle classes to become a model of universal psychology (Harré 1993:13). As Hacking puts it, "the benign and sterile-sounding word 'normal' has become one of the most powerful ideological tools of the twentieth century" (Hacking 1990:169).

13. Cf the work of Scribner and Cole (1981) among the Vai, which was seen, first, as a natural experiment, with ready-made experimental and control groups, the goal of which was to isolate the consequences of literacy uncontaminated by western schooling. The subtlety and particularity of their final account of the uses and implications of literate activities in that setting emerged, in a sense, in spite of these methods imported from the psychological laboratory, and reflect the more detailed picture derived from prolonged contact with the local culture and practices (cf §6.2.6).

14. Rogoff notes that it is the individualist emphasis of Piaget's work on developmental 'stages' that has received greatest attention in American accounts, rather than his interest in the social environment (Rogoff 1990:4).

15. Cf Vendler's extreme statement of this view (Vendler 1972:141).

16. With respect to another vital domain: "The concept of a person, one of the most primitive concepts available to a young child, is extremely complex and has been the subject of subtle philosophical inquiry for many centuries. Surely none of this is learned through experience" (Chomsky ibid.:31).

17. Fodor rejects Piaget's model of developmental stages, in which (a) what differentiates the stages is their logic, and (b) what enables transition between the stages is learning, since, in order to learn (and therefore understand) concepts at the next stage, the child must, in Fodor's view, already have them in its conceptual system; the 'new' concept must be reducible to a familiar one, and so cannot belong to a 'more powerful' logic (ibid.:87ff; cf also 1980:142ff).

18. Cf Luria's criticism of Durkheim and others for their exclusive focus on "the formation of the individual mind as a purely spiritual event occurring in isolation from the concrete practice and physical conditions of its physical milieu" (Luria 1976:7).

19. Wierzbicka's (1992) project is typical, in its emphasis on the diversity and incommensurability of semantic forms, while seeking to uncover the 'true' language of conceptual/semantic universals, or 'alphabet in thought' (Wierzbicka's term) that lies behind it. Likewise, the work on colour terms begun by Berlin and Kay (1969) has aimed at identifying the universal cognitive categories underlying their apparently chaotic cultural diversity (cf Saunders 1995). The 'cultural models' which make sense of the world, and enable specific forms of cultural knowledge to be learned (cf Holland and Quinn 1987; d'Andrade 1990), though equally varied, are ultimately constrained by its assumed universal features (cf Hill 1988; Shweder op. cit.). Cultural artefacts, such as literacy, and their 'cognitive consequences', have also been supposed to be 'the same' regardless of the particular activities or social institutions in which they are manifested (Scribner and Cole 1978:452).

20. Some recent models have abandoned the depiction of elements interacting within a single 'processor' for interaction between a multitude of smaller, "highly interactive minimodules" (Jakendoff 1987:101). This has followed the rise of parallel processing, and a shift from the specification of the rules of comprehension to attempts to emulate the actual working of neurons in the brain (cf Oakhill and Garnham 1988:34; Sinha 1988:149). Yet here, too, according to Jakendoff, "language comprehension ... may still on closer inspection prove to be highly regimented both in its use of information and in its true course" (op. cit.:103).

21. Cf Grabe's notion of 'textual interaction', describing the combinations of stylistic features, discoverable by factor analysis, which serve to characterize different genres (op cit.:64f; cf also Biber 1988). Since this concerns regularities among texts, it need not imply any internal component of the reader's knowledge or 'comprehension abilities'. However, Grabe appears to conclude that it does (cf Grabe op. cit.:65).

22. Cf Eskey's assertion that "no one knows exactly what reading is ... despite a library-sized bibliography devoted to reading and the teaching of reading" (Eskey 1973:68). Clarke claims that "reading is perhaps the most thoroughly studied and least understood process in education today" (Clarke 1988:114). Tudor asserts that reading is not completely understood because comprehension "takes place within the reader's mind" (Tudor 1981:25). Concerning second language reading comprehension, Barnett warns that because the processes are "invisible", we can never expect more than "secondhand" evidence about them (Barnett 1989:38).

23. This is reflected at an extreme in Valentin's calculation that each letter takes 1/28th second to comprehend, derived by timing the reading of a text and dividing by the number of letters (cited by William James; see Hilmy 1987:198-9).

24. Attempting to counteract over-emphasis on the reader's prior knowledge, Schwartz shows how the two senses can be confused: "It goes without saying that reading cannot be a totally top-down process or there would be no need for printed text at all; a blank page would suffice!" (Schwartz op. cit.:85). This clearly does not follow; it implies that exclusive attention to the 'top' end of the process in sense (2) would remove the need for an object of perception ('outside the head') at the 'bottom' end in sense (1). The proper contrast relates only to sense (2), between unjustifiable interpretation, on the one hand, and over-narrow reliance on word-meaning, on the other ('textualism' and 'fundamentalism' in Carruthers' terms; cf §3.2.4) - both of which equally require a text.

25. The analysis of such difficulties constitutes an important strand in Wittgenstein's *Philosophical Investigations* (1953); his views are discussed by Baker and Hacker (1980, esp. 331ff); see also Ryle (op. cit.) and Putnam (1981:19ff).

26. Cf Putnam's discussion of Fodor, whose work is presented as an empirical hypothesis about the working of the brain. If, Putnam argues, it could (however improbably) be shown experimentally that when an English speaker thinks 'cat' and a Thai speaker thinks 'meew' both have the same representation in mentalese (for example, '*#@å'), this would be a contribution to our understanding

of the brain, and human psychology; but, he asks, "what is its relevance to a discussion of the meaning of *cat*, *meew*, or *#@å?" (Putnam op. cit.:40-1; original emphasis; cf also Vesey 1977).

27. Johns has shown that the attempt to identify neurophysiological facts with the conceptual models of the organization of knowledge was equally manifest in seventeenth century dissections of the brain (cf Johns 1996).

28. As Wittgenstein observed, one would not expect a person to be able to draw a sketch of a proposition as proof of his understanding: why should we therefore expect him to draw a mental sketch? (Wittgenstein 1953:120).

29. Cf, for example, the featural model of perception proposed by Olson and Bialystok (1982).

30. This view is mirrored by the editorial assumption that 'authenticity' of texts is to be achieved by restoring a 'pure' version of the original: as Kerrigan argues, no such original (identifiable with 'the author's intention') lies unproblematically beneath the diversity of textual variants and 'editorial' responses - corruptions, corrections, annotations, etc. - supplied by readers (Kerrigan 1996).

31. Cf Dennett, who notes anthropological interest in the role played by myths (forms of 'cultural schemata') in shaping the minds of the younger generations to whom they are transmitted, but criticizes anthropologists for failing to model the processes involved "computationally or neuroanatomically" (Dennett 1991:258).

32. Bartlett's original approach had laid even greater emphasis on this aspect (Shotter 1990).

33. While professing agnosticism as to whether the individual or the group should be treated as primary, he was careful to note that, despite the "common prejudice" in favour of a substantial, individual 'Self', and tendency to project its hypothetical characteristics on to the group, the evidence could equally be interpreted the other way (ibid.:309).

34. Despite emphasis on 'shared experiences', etc., however, it remains that by defining an orientation to the world and a 'plot' in which to organize and select its events, etc. these narratives and their genres are also by nature 'ideological'; for example, histories are told to legitimate a dynastic claim to power, etc.; with writing, the claims become ever more diverse and assertive. Moreover, the uses of literary texts are never predictable, and may equally lead to dissent (cf §6.2.5.3).

35. Evidence suggests that Chinese characters begin to be learnt successfully when children begin to write, and so learn the technique by which the characters are constructed, the order of strokes, etc. (Fan et al. 1987). Here, too, it could be argued, memory is physically constituted.

36. According to Sapir: "It becomes almost impossible for the normal individual to observe or to conceive of functionally similar types of behavior in other societies than his own, or in other cultural contexts that those he has experienced, without projecting into them the forms that he is familiar with" (Sapir 1927:548).

37. Cf Sapir's assertion that "the worlds in which different societies live are distinct worlds, not merely the same worlds with different labels attached" (Sapir 1929:209). Also Slobin's distinction between (universal) 'child speech', its categories framed in relation to a 'core' set of semantic/-pragmatic notions, and 'adult speech', whose diversity of far less obviously motivated categories can only be learned through experience with particular languages (Slobin 1990).

38. For example, the evolution of 'biography' or 'history' as genres has been constitutive of the way in which human life and the past are conceived and understood.

39. Contrast Frake's comment that the modern sailor, dependent on tables derived from complex tidal theory is (in this sense) prone to magical thinking, having lost any sense of the tides as a system, which the participant in the (oral) practice of tidal reckoning preserved (Frake 1985:268).

40. Against Putnam's contention that "languages and meanings are cultural realities" (Putnam 1993, his emphasis; quoted in Chomsky 1995:50), Chomsky objects that: "these 'cultural realities' do not contribute to understanding how language is acquired, understood, and used, how it is constituted

and changes over time, how it is related to other faculties of the mind and to human action generally" (Chomsky ibid.).

Chapter 5

1. Chomsky makes a similar point with respect to the claims made for ape signing, doubting whether it is likely that any creatures could 'really' (genetically) know how to use language yet never have found it worth their while to do so (Chomsky 1976:40); in his view, ape signs could only 'really' be called language if they were genetically programmed. But since it is certain that humans can become literate, the same argument counts against the likelihood that any narrowly specified genetic programme could be necessary for the development of these abilities.

2. The normal curve had two derivations: (i) as the limit of the binomial distribution; (ii) as the probable distribution of error in astronomical measurements. In (i), it expresses the probability of events such as throwing heads with an unbiased coin over an infinite number of trials; in (ii) it expresses the distribution of infinitely many observations of (for example) a fixed celestial point. These are 'real' in the sense that (i) unbiased coins do have the propensity to fall heads with this probability, and (ii) astronomical error is a property of instrument and observer relative to a real point in space (cf Hacking op. cit.:106-7). There is no equivalent 'reality' in the case of human populations.

3. The standardization of mass education accompanied and naturally promoted the standardization of literacy.

4. Edward Thorndike, whose influence on the subsequent nature of American secondary education was profound, drew attention to the positive correlation between money-making, innate intelligence and moral worth (cf Karier 1967:174; Johanningmeier op. cit.; for comparable British developments, cf Wooldridge 1994; for a discussion of recent revival of such ideas, see ibid.:ch14; also Herrnstein and Murray 1994; Hacking 1995).

5. According to Berlin, in nineteenth century social writing, "Individuals remain 'abstract' precisely because they are mere 'elements' or 'aspects', 'moments' artificially abstracted for ad hoc purposes, and literally without any reality ... apart from the wholes of which they form a part" (Berlin 1954:46).

6. Cf Smith's observation: "The ... most potent and destructive reason for many of the programmes imposed on teachers is control ... and lack of trust" (1978:151); his concern, however, is to show up the rigid programme as inimical to what he believes is children's natural ability to learn to read by being engaged in the written language.

7. Cf Whitehead: "The pleasure and the discipline of character to be derived from an education based mainly on classical literature and classical philology has been demonstrated by centuries of experience" (Whitehead 1932:96). What the classics have been to us, English literature will be to other races.

8. Cf the terms in which an anonymous writer in 1851 assessed the intellectual capabilities of the Fijians: "Minds have been discerned there, which, under the discipline of a refined culture, might have ranked high upon the rank of mental achievement" (quoted in Clammer 1976:62).

9. Likewise, Fillmore (1982) criticizes the 'bottom-up' bias of contextless test passages which, by failing to resemble genuine text, encourage learners to adopt inappropriate strategies and to see reading as detached from their own knowledge and concerns; Carrell speculates that the same may be true of second language readers (Carrell, ibid.; cf Spiro 1980:264).

10. Scribner and Cole (1981:254) offer some support to Downing's view that certain aspects of using a written symbolism may be universal, although without referring to the operation of internal psychological laws (cf below; §6.2.6).

11. A view later championed by Whitehead, for example: "If ... your job is to think, render thanks to Providence which ordained that, for five years of your youth, you did a Latin prose once a week and daily construed some Latin author" (Whitehead 1932:100).

12. In Davies' opinion "an excessively unhelpful remark" (Davies 1979:127). Yet it recurs like a mantra, even in informed discussion (for a recent example, cf the conclusion of Grabe's (1991) survey).

13. As Howatt comments, "there are more stories like Robinson Crusoe and Black Beauty in [West's Longman New Method] reader-scheme than 'How to mend a bike' or 'The economics of farming'" (Howatt 1984:250).

14. Thus, in an analogous case, while Johnson-Laird agrees that musicians "learn to improvise by improvising" (1983:467), he assumes that their development of a style implies and depends on the existence of underlying 'principles' governing their performance, which are unknowable because unavailable to introspection (ibid.).

15. Conversely, 'input' is discussed without any reference to reading or the written language (see, for example, Gass and Madden 1985).

16. In many educational settings, insistence that it does not matter what learners read will come into conflict with firmly held, and long-established beliefs that it does (cf Appendix 2). In practice, however, the appearance of freedom for learners to pursue their own preferences is offset by the imposition of a programme of reading selected by teachers or administrators.

17. In certain circumstances, emphasis on maximizing exposure to the target language may also help to legitimate suppression of the mother tongue (or, 'mixed code', as in Hong Kong) for other (eg political) reasons (cf below, chapter 8).

18. Implied by Morrow and Weinstein: "Too often, such [skills] programs create individuals who can read, but choose not to read" (Morrow and Weinstein op. cit.:344). The Hong Kong survey provides evidence of the greater popularity of newspapers than books among certain kinds of readers (cf chapter 8).

19. Other terms used include 'voluntary' (Elley 1994), or 'recreational' (Maxwell 1977). The former makes clear the paradox, from a pedagogical point of view, of enforcing activity that is supposed to be freely chosen. Emphasis on 'the reading bug' is perhaps the result.

20. Both Fries and West envisage that, once automated, the visual encounter with language will become the primary mode of developing language and experience (cf Fries op. cit.:132); West emphasizes the much greater extent of the reading vocabulary and the speed of its acquisition (West 1960:17-8).

21. Underwood and Batt report that experiments show no great difference between the time taken to recognize short alphabetic words or long ones, suggesting that, in skilled reading, they are not processed letter by letter (Underwood and Batt 1996:12).

Chapter 6

1. Its scope varies. Some scholars have sought to understand the role and nature of literate practices in parts of the ancient and medieval world (for example, Cressy 1980, Stock 1983; Carruthers 1990; O'Keefe 1990, Thomas, op. cit., Clanchy 1993); others have focused on literacy in communities in recent times, including those within contemporary 'advanced' societies and educational settings (for example, papers in Goody 1968; Furet and Ozouf 1982; Heath 1983; Duranti and Ochs 1986; Wagner et al. 1986; papers in Cook-Gumperz 1986; Bloch 1989; papers in Street 1993; Besnier 1995).

2. Chartier notes that this high rate of literacy applied only to reading; the ability to write remained the preserve of an elite (Chartier 1989:119; cf below).

3. Thus missionary literacy of the kind described by McKenzie (1987) among the Maoris, Clammer (1976) in Fiji, or Besnier (1995) in Tuvalu was typically one of consumption rather than production of texts. By contrast, the uses that ensured its survival in such contexts were generally productive.

4. Trans. W. Hamilton, Penguin Classics 1973:97.

5. Similar attitudes persist in our own time, which might be expected to have grown inured to changes in communications technology. Hugh Kenner recounts having a manuscript rejected by an editor, before word-processing was commonplace, with the comment that "she'd like it better if it had not come from a machine" (Kenner 1993). Debate over the acceptability of pocket calculators in the maths class derives from the same fear that the machine will make its users mentally dependent.

6. As Hudson (1994) points out, Rousseauan difficulty with writing and the eighteenth century celebration of orality came about just when western culture had been finally dominated by print.

7. McLuhan seems to confuse the physical characteristics of the printed page with the activity of the skilled reader.

8. Cf Frake's comment on print-bound modern seafarers (chapter 4 note 39 above).

9. Antecedents of this emancipatory view of the alphabet are discussed by Chartier (1995:7-8). Hegel's similar belief has already been mentioned (chapter 2 note 17).

10. A point subsequently stressed by Furet and Ozouf (1982:305), and Coulmas (1983:475); cf also chapter 2 above.

11. Equating the evolution of a literate mode of discourse with a child's learning to read is, however, unrealistic. As noted, Olson's approach has tended to project conclusions drawn from the latter on to the historical picture (cf §3.2.4).

12. Harris identifies the same tendency in the process by which linguists have taken 'deprescriptivised' rule-formulations from traditional grammar and adopted them as internalized rules of a speaker's grammatical competence: "Modern linguistics constantly projects into its analysis of language the biases and assumptions of a particular cultural tradition, even while overtly disavowing them" (Harris 1987:130).

13. In the same way, it may be argued, school itself, presented as neutral, concerned solely with the transmission of 'pure' knowledge, thereby conceals the extent to which it reproduces and reinforces a particular ideology (cf Richardson 1994:ch2).

14. Cf Bloch's account of Malagasy literacy, in which texts are not subjected to criticism because they are treated in the same way as authoritative forms of oratory (Bloch 1989:25-6).

Chapter 7

1. A favourite quotation of Vygotsky's (cf van der Veer and Valsiner 1991:214).

2. Cf Ayer's observation that "some human being must have been the first to use a symbol" (quoted in Winch 1958:36).

3. Walkerdine notes how a failure to appreciate the importance of such 'notation-directed change' has handicapped recent teaching of basic mathematics, where writing (for example, of addition involving tens and units) is commonly regarded as "the icing on the cake of real understanding", not itself intended to help achieve understanding (Walkerdine 1984:193). She discusses an example in which use of graphic symbolism was observed to enable a child to attempt and reflect on this particular mathematical operation; yet his teacher saw only the danger of 'rushing ahead' before the underlying concept had been grasped (cf also Walkerdine 1988:ch8). Compare injunctions in language teaching that nothing should be written that has not been understood first in spoken language (cf Rivers 1964:103).

4. Bakhtin notes the absence of interior thought and emotion among the ancient Greeks, as manifest in their epic: "there is no mute or invisible core to the individual himself: he is entirely visible and audible, all on the surface" (Bakhtin 1981:134).

5. As is clear from Akinnaso's (1992) account of the transmission of traditional knowledge by means of formal, oral instruction, the symbolic practices involved need not be of a specifically 'logical' or 'propositional' kind.

6. Cf the comments by Scribner and Cole on the rapid decay of 'school' abilities among the Vai, except where they continued in school related activities (Scribner and Cole 1981:131).

7. As Kenner's editor failed to appreciate, use of a word-processor may perhaps have the same kinds of consequences in our own setting (cf chapter 6 note 5 above).

Chapter 8

1. The specificity of practice avoids the "vague terrains of thought" (in Sapir's phrase; 1924:308) evoked by often polemical reference to 'culture' in such notions as 'Western culture', 'African culture', etc., which tend to obscure more than they explain.

2. Compare Cook's view, with respect to language teaching, that "teachers or native speakers can only explain what they are consciously aware of" (Cook 1988:177), and that, since there are many language points no-one is aware of, explicit teaching has little use. In practice, much may be taught that is not explicit in this propositional sense.

3. Its relation to the concerns of the agent also distinguishes the notion of practice from that of (supposedly neutral) 'behaviour'.

4. Cf the historical outline of early modern western reading practices provided by Chartier (1989).

5. Described by Chartier as "undoubtedly one of the major cultural developments of the early modern era" (1989:125).

6. In their investigation of literacy acquisition in contrasting domains in Morocco, Wagner et al. (1986) likewise emphasize the social nature of domestic 'literacy events', in which, for example, schooled children may act as mediators by reading aloud for non-literate parents, etc.

7. The term 'symbolic simulation' is used by Furet and Ozouf to describe early responses to the introduction of reading materials into societies without them, and which, in their view, "was indispensable for the appropriation of the new object" (1982:307). Such a view obviously contrasts with the notion of 'transfer' (cf below).

8. In contexts where state literacy provision is rapidly increasing, these discontinuities are likely to occur within families, especially between generations (as noted in Morocco; cf Wagner et al. 1986:252).

9. Conversely, Brimer comments on the usually high quality of the mathematics in Hong Kong schools, in which students appear to be liberated by the use of a non-linguistic symbol system (Brimer 1988:337).

10. Gee's describes such learners as 'colonized' by the more powerful Discourse (Gee 1990:155).

11. They, of course, may be as restrictive as those of Heath's Roadville; but, in any case, they are aspects of social practice, not intrinsic to the nature of the written representation or its mental processing.

12. Details of such a programme and its intended mode of operation are set out in the EPER Guide (EPER 1992).

13. This is an example of what Cook-Gumperz refers to as the twentieth century "transformation of literacy from a moral virtue into a cognitive skill" (Cook-Gumperz 1986:37).

14. Yet, even in West's own case, it is hard to imagine that 11-year-old Bengalis, obliged to leave school to help support their families (among whom private reading might well be stigmatized as unproductive), could have maintained (still less improved) their reading in English (cf West 1926:111).

15. Cf also other settings (for example, Tanzania, Zanzibar, the Maldives) in which EPER has been concerned.

16. The figures for primary schools are almost the reverse: 15% are English medium; 85% Chinese (Yu; personal communication); in the ERS survey, the figures reported are 11% (PRE) and 15% (POST); cf Appendix 5, Table 43. Of those attending English medium primary schools, nearly two thirds come from 'white collar' backgrounds.

17. Termed "utilitarian individualism" by Lau (quoted in Bray and Lee 1993). These writers see in the pragmatic, economic emphasis of Hong Kong and its education system a reflection of the deliberate exclusion of ideology from all spheres of public life.

18. About 20% are described as 'genuine' English medium schools; the remainder use mixed code in the classroom (Yu; personal communication).

19. Evidence of students' unfamiliarity with written Chinese is provided by the ERS survey, in which reading is described as 'sometimes difficult' by 31% of the PRE sample (28% of POST) (Appendix 5, Table 1). Vocabulary is mentioned as a source of difficulty by 51% (45%).

20. Other languages found in the colony are listed in Pierson et al. (1980:306).

21. It may be appropriate to regard this situation as one of 'subtractive bilingualism' (cf Yu and Atkinson 1988b:320-1); this, however, lays emphasis on individual attitudes, rather than on relations between social discourses and practices.

22. Leading ultimately to Hong Kong Government funding for the ERS at a cost of more than HK$3 million per year to 1996, when the scheme would reach its projected target of 200 schools (figures based on a 1989 estimate, disregarding increases in costs).

23. As evidence of the high levels of literacy, Baker notes that in 1992 there were 54 public libraries, 37 Chinese and 2 English daily newspapers (recently declined from 55 and 6), 28 non-daily newspapers and 600 periodicals. In addition, 98% of households had a television and 68% a video recorder (Baker 1993:870-1). In the ERS survey 62% of the children claimed to use the public (council) library; and only 8.7% said they had no books of their own at home (cf Appendix 5, Tables 10 and 18).

24. The mean number of books read was only 19.6, against the target of 60 per year (achieved by only a handful of individuals).

25. Pilot schools were recommended to spend three of their regular eight weekly English lessons operating the scheme (ibid.:6). In fact, the number of lessons allocated varied between one and four, and their total number in the first year of the scheme between 18 and 72 (with a mean of 51.2), (ibid.:20); implementation in some schools was only patchy and discontinuous.

26. It became possible to pursue this aim as a result of the support and collaboration of the Reading Officer at ILE with responsibility for the Hong Kong reading scheme, who had considerable interest in data on students' reading that could contribute to an evaluation of its success, and who therefore provided the necessary means to carry out the administratively complex pre-post design.

27. For example, Hong Kong students tend to be reluctant to assess themselves as 'very good' (etc.).

28. 45% (PRE) and 42% (POST) report already having used an extensive reading scheme of some kind in primary school (Table 5/44).

29. The decline in positive responses is complemented by a rise in negative ones; that is, the decreased interest is actively registered. In general, the mean number of preferences expressed also declines slightly from 9.87 to 9.17. However, expressions of preference do not indicate actual reading: no fewer preferences are expressed by those claiming 'never' to read in Chinese for pleasure

than by apparently keen readers; moreover, boys express more preferences than girls, PRE and POST, despite apparently reading less. In English, a similar overall decline is accompanied by evidence of increased amounts of reading (cf below). Questions of this type may well tend to be interpreted as concerned with the subject matter rather than specifically with reading about it.

30. It is, of course, probable that girls are simply more modest in their self-assessments; however, boys seem equally ready to acknowledge difficulties (cf below).

31. It is relevant to compare Elley's (1994) IEA survey, which found Hong Kong "exceptional" in that, among 9-year-olds, the most frequent readers clustered in the third quarter of the scores on a test of expository reading (Elley op. cit.:83-4). His explanation, however, is in terms of the limited 'transfer' of benefits from voluntary reading to school reading at this age.

32. In making global comparisons one should note the preponderance of single-sex girls' schools in the upper socioeconomic range (see Appendix 4(a)).

33. Elley's IEA reading survey found that, among 9-year-olds, girls reported more voluntary book reading than boys in thirty-one of the countries investigated; interestingly, the one exception was Hong Kong, where the difference was negligible; among 14-year-olds, the pattern was more varied, but boys in Hong Kong reported significantly more reading of all kinds other than 'documents' (Elley 1994:70;82).

34. Similar evidence is reported by Yu and Atkinson from a survey of attitudes among 118 fourth year secondary pupils, in which boys displayed more negative opinions than girls about both reading and learning English (cf Yu and Atkinson 1988b:316).

35. Correlations between the same genres in the two languages are generally strong relative to those between different genres in the same language; which suggests that, as regards preferences, at least, language difference is less important than subject matter (least clearly so with regard to newspapers; cf below). POST correlations tend to be stronger than PRE, notably for science, 'serious' genres and sport (fact), which may reflect an increasing specialization of students' interests, and their greater familiarity with school texts of these kinds in English.

36. Girls appear generally to have been more conscientious in answering the questionnaire, omitting fewer questions than boys.

37. And also suggesting that the appearance of adult forms of reading activity may sometimes conceal genuine difficulties.

38. This finding is borne out by the IEA study; in this respect, Hong Kong resembles Singapore and the Nordic countries (cf Elley op. cit.:74).

39. It is likely, of course, that differences between newspapers themselves help to mark significant social/cultural distinctions between 'popular' and 'serious' reading.

40. The IEA survey tends to confirm this, noting that 14-year-old Hong Kong students laid greatest emphasis on factual, and scientific subjects in book reading, news and politics in magazines (Elley op. cit.:76;81).

41. According to Luke and Richards, English newspapers have a small Chinese readership consisting of businessmen and professionals, but also of bulk subscriptions from secondary schools, where students are often encouraged to read them (Luke and Richards 1982:53).

42. Japanese comics, featuring a diet of action, sex, and violence, etc., are read with relative ease in Hong Kong (Yu; personal communication).

Chapter 9

1. With handover to Chinese authority, however, it seems likely that the ERS will cease to be implemented with the previous level of support from the centre.

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APPENDIX 1

SPOKEN AND WRITTEN LANGUAGE CONTRASTED

The following pages present a summary of features held by various scholars to differentiate between speech and writing, organized under the following headings:

1) Physical features
2) Properties determined by physical features
3) Grammatical/lexical features
4) Discourse and stylistic features
5) Functions
6) Sociocultural contexts, roles and status
7) Linguistic consequences
8) Sociocultural consequences
9) Cognitive consequences

As will be clear from the text, no single feature can be taken to distinguish absolutely between the two modes within a given language community, still less across communities and historical periods.

Biber (1988) reviews previous research into differences between speech and writing. He finds that writing is said to be:

1. more structurally complex and elaborate; eg longer sentences or T-units, greater use of subordination;
2. more explicit; complete idea units, with all assumptions and logical relations encoded in text;
3. more decontextualized or autonomous; less dependent on shared situation or background knowledge;
4. less personally involved, more detached, abstract, etc.;
5. characterized by higher concentration of new information;
6. more deliberately organized and planned than speech (Biber 1988:47).

In his view none of these features characterizes all genres of speech and writing; some are not even adequate for 'typical' genres. "One of the central findings of [his] study is that there is no linguistic or situational characterization of speech and writing that is true of all spoken and written genres" (ibid.:36). He attributes the contradictory conclusions of other studies to shortcomings in experimental design; namely, assigning undue weight to:

1. individual texts, giving idiosyncratic texts major influence;
2. the genres chosen for analysis: most compare one spoken, one written, in many cases without controlling for the communicative task represented;
3. particular linguistic features: although most have considered only a few such features, they have tended to consider a differential distribution in any one to be important;
4. the choice of speaker/writer and choice of language: eg (typically) middle-class academic English, taken to be representative of the whole English speaking community. Findings then tend to be generalized to 'speech' and 'writing', as if the relations among spoken and written genres were the same in other languages.

The last is especially mistaken in the case of non-Western language and cultures, where both the functions and form of spoken and written genres vary considerably from Western norms (ibid.:52-3). The danger of skewing the comparison is stressed both by Biber and Nystrand (1987). Akinnaso comments that results are often an artefact of the data chosen (Akinnaso 1982:110), and stresses the need to control for (i) context and purpose; (ii) the nature of the task involved; (iii) the topic and its associated register; (iv) participants' background and level of linguistic knowledge.

Problems also arise with the use of terms such as 'complex', since everything depends on the measure of complexity adopted. According to Biber, the only more or less categorical distinctions to be made between speaking and writing are: (1) the difference of channel; (2) the extent to which it is possible to interact with the text (absence of time constraints in writing; severe time constraints in speech) (op. cit.:44).

SPEECH/SPOKEN LANGUAGE	WRITING/WRITTEN LANGUAGE
1. Physical features	
Acoustic	Graphic
Single form (acoustic signal)	Variety of forms (ideographs, alphabets, etc.)
Audible, extended in time	Visible, extended in space
Dependent on acoustic conventions	Dependent on spatial conventions
Dynamic	Static[1]
Audibly patterned (intonation, stress, pauses, silence, etc.)	Spatially patterned (white space on page, use of punctuation, lines, columns, etc.)[2]
Necessarily sequential	Not necessarily sequential
Typically transient	Potentially permanent
Normally immersed in context of utterance; face-to-face, here and now	Normally independent of context of utterance; relation to past and future[3]
Multi-modal (prosodic; paralinguistic)	Single mode[4]

[1] Ong 1982. Vachek 1973 also uses this pair of terms - to differentiate functionally between spoken and written norms of language.

[2] See Kress 1982:27-8.

[3] Horowitz and Samuels 1987.

[4] Akinnaso 1982:112; Biber 1988:38.

SPEECH/SPOKEN LANGUAGE	WRITING/WRITTEN LANGUAGE
Constitutes a particular phonetic realization of language	Independent of any particular phonetic realization of language
2. Properties determined by physical features	
Synchronic; usually present only at the moment of utterance	Diachronic; texts of different periods simultaneously present
Largely unrevisable	Publicly accountable, available for analysis, revision, re-interpretation[5]
Evanescent, lost to the historical record	Passes into and constitutes historical record
Temporal organization necessarily linear/sequential	Spatial organization not necessarily linear/sequential
Typically produced/revised in real time; production process public; usually fast, with little reflection[6]	Typically not produced/revised in real time. Production process concealed; often many unseen stages of revision and elaboration
Participants in communication must comprehend language 'on line'[7]: slower processing	Participants in communication may interact with text (i.e. read and write at their own pace); silent reading enables fast processing
Language necessarily processed sequentially	Language not necessarily processed sequentially
Usually direct, immediate contact/feedback/negotiation between speaker and listener	Little (or only indirect) contact/feedback/negotiation between writer and reader
Message is part of physical act, including eye-contact, gesture, body posture, etc.	Message stands alone, with support of conventional structure, relation to other texts, etc.
Message outlasts the particular form of its expression	Message and expression are united, often mutually defining

[5] Vachek (1959:412) stresses 'surveyability' (with permanence) as one of the chief distinguishing characteristics of the written norm.

[6] "Whether the listening person likes it or not, he is bound to follow the speaker's rate of developing the theme; one might also say that he is the speaker's fellow-prisoner within the dimension of time" (Vachek 1959:412).

[7] This point is made by Chafe 1982.

SPEECH/SPOKEN LANGUAGE	WRITING/WRITTEN LANGUAGE
3. Grammatical/lexical features	
Lexically redundant	Lexically dense[8]
More complex ("intricate") sentence structure	Simpler sentence structure[9]
Intricacy in clause complex	Intricacy in nominal group[10]
'Choreographic': complexity in flow/dynamic mobility	'Crystalline': solidarity among parts[11]
Preference for shorter words, simple/ core vocabulary (especially English words of Anglo-Saxon origin)	Wide, often specialized (function/ domain-related), and/or historically rich, allusive choice of vocabulary (especially longer English words of Romance origin)
Burden of message carried by verb phrases, and paralinguistic features	Burden of message carried by noun phrases; nominalization (promoting backgrounding of information)[12]; passivization
Exophoric (context-dependent) reference	Endophoric reference
Cohesion established through paralinguistic cues	Cohesion established through lexical cues[13]
Single predication	Multiple predication[14]
Preference for linear ordering of elements; long clause units; co-ordination	Preference for hierarchical ordering of elements; short clause units; subordination[15]
Shorter (c 7-word), more independent 'idea units'	Longer (c 11-word), more integrated 'idea units'[16]

[8] Halliday 1985; 1987:60.

[9] Halliday 1987:60.

[10] ibid.:73.

[11] ibid.:66.

[12] ibid.:78-9.

[13] Horowitz and Samuels op. cit.; Nystrand 1987 discusses this.

[14] ibid.

[15] Cf Horowitz and Samuels 1987:32: Left-branching in formal prose requiring regressive eye-movements and bottom-up processing.

[16] Chafe 1985.

SPEECH/SPOKEN LANGUAGE	WRITING/WRITTEN LANGUAGE
Parataxis/hypotaxis[17]	Subordination/embedding etc.
Preference for imperatives, interrogatives, exclamations	Preference for declaratives and modals/subjunctives[18]
4. Discourse and stylistic features	
More categorical	More circumspect
Speech appears discontinuous, disfluent[19]	Text appears continuous, fluent
Usually loosely structured	Usually tightly structured
Unplanned	Planned[20]
Fragmented	Integrated[21]
Not tightly ordered[22]	Logically ordered in some way (thesis, topic sentence, evidence, etc.)
Frequently inexplicit and context-dependent, with few logical signposts, and reliance on shared knowledge	Clear, self-explanatory, independent of context, full of explicit reference, and signposts to structure[23]; assumption of general background knowledge
'Dialogic', constructed jointly by all participants. Constructs world of shared meaning[24], with frequent omission of 'known'[25]	'Monologic'. Cohesive, continuous development of a topic under writer's sole control

[17] Halliday op. cit.:58. 'Hypotaxis' where one element is dependent on another, but is not a constituent of it. Halliday calls embedding in strict, written sense 'rank shift' to stress its difference from hypotaxis (ibid:73-4).

[18] Akinnaso 1982:104.

[19] But (as Nystrand 1987 points out) typically only when written down and then read.

[20] Horowitz and Samuels 1987; Ochs 1979; see also Akinnaso 1982:108: he notes parallel with Bernstein's codes.

[21] Chafe's terms; criticised by Halliday op. cit.:67 for the implication that speech is defective in comparison with writing.

[22] Akinnaso 1982:104. Cf also Halliday op. cit.:68ff.

[23] Cf criticism of this idea by Nystrand 1987.

[24] For this opposition see Kress 1982:26.

[25] Ibid.:34.

SPEECH/SPOKEN LANGUAGE	WRITING/WRITTEN LANGUAGE
5. Functions	
'Rhetorical'	'Propositional'[26]
Extremely wide spectrum of purposes and functions	Specific, usually specialized functions dependent on cultural/historical context[27]
'Interactional'	'Ideational'
Involved	Detached[28]
Typically phatic, affective, etc.; narrative: action, event, story orientated	Typically information-bearing, expository; idea, argument and exposition orientated
Process-orientated	Product-orientated
Typically less formal, etc.; expression typically repetitive, elliptical	Typically more formal, etc.; expression typically succinct, explicit[29]
6. Sociocultural contexts, roles and status	
Biologically given; 'natural'; phylogenetically prior	Culturally constructed; 'artificial'; phylogenetically late, optional
Acquired spontaneously (at home)	Deliberately taught (at school)
More 'primitive'	More 'advanced'
Private; typical of home, and of mother tongue.	Public context, eg school, work, etc. For many may be an L2.
Low status; popular	High status; empowering
Commonly includes use of non-standard forms; colloquial, innovative	Standardized, conservative, normative
Tolerant of different usages	Intolerant of deviations from norm (= 'error')
Voice/authority situated (= point of view)	Voice from 'nowhere'; authority from text, not situated; autonomous[30]

[26] Cf Introduction.

[27] Vachek 1973: generally high cultural status.

[28] Chafe's terms (see above); also Biber op. cit.:43.

[29] Cf note 23 above.

[30] Kittay 1991.

SPEECH/SPOKEN LANGUAGE	WRITING/WRITTEN LANGUAGE
More necessary to maintain relationship between participants in communication	Less necessary to maintain relationship between participants[31]
7. Linguistic consequences	
Little conscious manipulation of components of language in flow of speech	Spatial/visual organization brings language to consciousness, furthers awareness of its components and aids their manipulation[32]
Language not clearly identified as object capable of analysis, etc.	Language perceived through lens of written form: furthers linguistic analysis, etc.
Discourse not perceived as constituted of separable phonemic (etc.) elements[33]	Notion of language as text, made up of letters, sentences, paragraphs, etc. becomes natural, perhaps primary
Absence of standardization, etc. Great variety of languages and dialects.	Leads to standardization, codification, etc. of language; the writing of grammars, etc. Tends to displace minority dialects[34] and languages.
Spoken language of many, especially minorities and non-mainstream groups, tends to be remote from written standard	Infiltration of 'written' forms into spoken language among social, political elites[35]
8. Sociocultural consequences	
Adaptability of oral memory makes intellectual life tend towards homeostasis	Permanence of text gives rise to possibility of criticism, etc.: institutionalizes opposition to authority: leads to natural tendency to evolution of ideas
Past continuously reinterpreted to explain present; inconvenient 'facts' modified and assimilated	Creates notion of 'factual' past; inconvenient facts, etc. to be interpreted, explained away, or 'destroyed'
Notion of original as true standard against which to measure current ideas is unlikely to arise	Existence of 'original' text (eg in religion) makes any deviation easy to detect; encourages fundamentalism

[31] Biber op. cit.:41.

[32] Points made by Goody 1987; Olson 1994, etc. Note Olson's and Harris' point that writing systems establish the basic units of language.

[33] Olson and Astington (1990:709).

[34] Cf Clifford 1984:473 - citing Illich.

[35] Kress 1982:9-10.

SPEECH/SPOKEN LANGUAGE	WRITING/WRITTEN LANGUAGE
Lack of fixity enables gradual transformation	Conservatism inhibits gradual transformation; promotes revolution[36]
Construction of reality proceeds on one plane only (that of experience)	Attention to points where logic (text) and world (experience) do not match - favours development of possible worlds, of which experienced world is only one[37]
Little specialization	Specialization of functions, knowledge, etc.
Institutions remain restricted to scope of face-to-face interaction, etc.	Leads to autonomous institutions (in public and private life) organized around written record, possession (and restriction) of information, etc. - especially religion, law, government, education
Little division of labour	Creates division of labour - scribes to be maintained at society's expense
Pupil must find teacher; knowledge transmitted face to face	Transport of books, etc. possible to propagate knowledge; hence not necessary for pupil to go to teacher, etc.
Local influence only; easy modification, adaptation, etc.	Enables influence of ideas (esp. religions of 'book', etc.) to spread over wide areas in fairly fixed form
Transactions limited by capacities of memory, etc.	Trade organized around literate/numerate practices; inventories; accounts, etc. - able to spread further afield
Tendency towards participatory government	Tendency towards bureaucratic government
Fragile lines of communication; limits size of state	Enables state to extend power widely
Social structure largely fixed	New channels of mobility and control
9. Cognitive consequences	
Unconscious	Conscious[38]
Use of concrete units; concepts embedded in social matrix; not generalized	Development of abstract units (of counting, classification, etc.); enables generalization

[36] Goody 1987:280.

[37] Bruner and Olson 1977-8:11.

[38] Horowitz and Samuels 1987.

SPEECH/SPOKEN LANGUAGE	WRITING/WRITTEN LANGUAGE
Speech and speaker indivisible: speech is speaker	Writing changes, divides personality of user[39]
Few ways in which to talk about language as text	Talk about text leads to development of metalanguage - relevant to development of literate skills[40]
Main purposes and functions always self-evident	Learning precedes perceived need; purposes and functions in many cases obscure to child
Lack of self-awareness, detachment from thought, operations on them, etc.	Promotes communication with oneself, development of 'thoughts about thoughts', etc., external organization of thought
Little necessity for abstract definitions of truth, etc.	Leads to changes in reasoning itself - as it affects the way discourse is carried on[41]. Closer definition of relevance, truth, etc.
Concept of 'correct' recall rarely dependent on exact form of words	Concept of 'correct' recall comes to mean 'verbatim'
Mediates basic mental functions, capacities of 'naked brain'	Tool for thought which mediates extrasomatic cognitive development, 'higher' mental functions
Intelligence defined in different, practical ways - no premium set on logical analysis[42]	Analytic/combinatorial mode, "overspill of literate usage into the thought processes", usurps notion of intelligence [43]
Not 'intellectualized'	'Intellectualized'; inseparable from transmission of culture through schooling, etc. in literate societies

[39] Havelock 1982:98.

[40] Olson and Astington (op. cit.)

[41] See Goody 1986:140ff.

[42] ibid.:9.

[43] Bruner and Olson 1977-8:9. "The differences Whorf sought may lie not so much between various language communities as between oral and written forms of language!" (ibid.:11).

APPENDIX 2

READING AND THE SCHOOL

Summary of influences and assumptions

The following paragraphs seek to illustrate the variety of influences on pedagogic use of written language and reading materials. Although seldom explicit, they interact (and conflict) in many ways, ensuring that no reading method or programme can expect to function 'technologically' (etc.), without reference to the norms and assumptions of the context in which it is used.

The paragraphs are arranged under the following headings:

Background assumptions

a) The standard medium
b) The literary canon
c) Civilizing influence
d) Moral value
e) Popular reading
f) The reading habit

Reading in the English language class

g) Cultural benefits of the written language
h) Responsive reading
i) Exemplification of language
j) Reinforcement
k) Primary source of vocabulary
l) Goal of language learning
m) Reading skills
n) Extended practice
o) Input
p) Pleasure

Background assumptions

a) The standard medium

Since ancient Greece, education in the western tradition has centred on the transition from oral to written communication; writing becomes the primary medium of formal education, whose ends are, overwhelmingly, textual. Written knowledge has thus been accorded higher status and authority; to be non-schooled/illiterate is, in this sense, to possess lesser intellectual powers. On the other hand, once learnt, reading is considered natural and ubiquitous, in need of no justification and little conscious attention.

b) The literary canon

Schooling in the humanist tradition is concerned with preserving the integrity of the classical literary canon, and guaranteeing its transmission to appropriate individuals. The use of text therefore involves exemplifying the canon and instilling an ability to read and interpret it, following established principles and in accordance with recognized norms. This is considered both spiritually and culturally 'good' for the learner, (ideally) promoting "awareness of, and responsiveness to, human, aesthetic and verbal experience" (Michael 1987:136-7), and useful for civic life in promoting virtue and discipline (cf Grafton and Jardine 1986). As such, its ideals are those of the educated elite, and the ability to read in this sense confers social advantage.

c) Civilizing influence

Contact with the western canon and its values may be held to benefit other cultures, particularly those lacking a developed literary tradition. In addition, such literature "disciplines, controls and satisfies the emotions" (Bright and McGregor 1970:53-4), inculcating desirable qualities of character, channelling potentially disruptive tendencies and so making colonial populations more orderly and governable. Reading will tend to reproduce this effect in each individual member of society. According to Daniel Boorstin, Librarian of Congress, voluntary reading (or its absence) "will determine the extent of self-improvement and enlightenment, the ability to share wisdom and the delights of our civilization, and our capacity for intelligent self-government" (Boorstin 1984; quoted in Morrow and Weinstein 1986:344). Edwards comments on the disposition among teachers to see reading as an introduction to an educated life, whose characteristics are "intellect, culture and tradition" (Edwards 1981:217).

d) Moral value

Discussion of reading for the masses, who, by implication, lack the privileges of (b) or the discernment of (c), has often adopted a moral tone: "Books are, if well chosen, domestic, present, constant, judicious, pertinent, yea and powerful sermons, and always of very great use to your salvation" (Baxter 1673; quoted in Cressy 1980:5). In the nineteenth century, reading the Bible was seen as remedy to social ills, such as pauperism: if the masses are taught to read, it should be for this purpose (Walkerdine 1984:164).

e) Popular reading

However, with the availability of cheap print literacy, the dangers of a general public reading "seditious pamphlets, vicious books" were fully apparent (the phrase is quoted by Cook-Gumperz 1986:25, from a parliamentary debate in 1807 on the provision of elementary education). The effects of reading, no less than those of modern mass media, were viewed with alarm; the unguided appetite of the masses, particularly women, for romantic fiction was considered debilitating: "[Novel reading] has spread so wide, and descended so low, as to have become one of the most universal as well as one of the most pernicious sources of corruption among us" (Hannah More 1799; quoted in Richardson 1994:186). Such reading could be characterized as private, indiscriminate, potentially subversive, trivial, harmful, self-indulgent, morbid, effeminate, and, by implication, a diversion from useful activity. As Edwards comments: "Whenever we observe a desire expressed that 'the people' should be doing things differently, it is a salutary exercise to question the norms and the motives of those who are most agitated" (Edwards 1981:223).

f) The reading habit

Conversely, the private freedom of the reading habit, as indulged by the judicious and discerning - 'ludic' reading - is constitutive of the essential privacy and liberty of the (bourgeois) individual. Non-pedagogic in nature, reflecting the reader's own preferences and freedom from outside control, it entertains, broadens the reader's horizons, feeds the imagination, provides escape, recreation, satisfaction, and, above all, is an end in itself. As such, its value is considered self-evident. It is clear, however, that for a reader who has 'caught the reading bug', it can also be, as John Cowper Powys described it, "a drug, a vice, an obsession..." (1929; quoted in Edwards op. cit.:219).

Reading in the English language class

g) Cultural benefits of the written language

In colonial contexts, particularly, a humanist emphasis, reflecting (b) and (c) above, has held that reading enables learners to encounter the English literary canon and make contact with the minds of "the nation's greatest men" (West 1955:2), thereby promoting international understanding, and discerning responses. These views have been embodied in school curriculums, and thus become an institutional fact of the post-colonial era, and one of its enduring anomalies. Like that of the classics in the humanist tradition, the English cultural canon has been translated into a set of more or less arbitrary tasks to be

performed in order to pass exams, etc. Then, as Harrison (1990) notes, questions of relevance obtrude - why should children in Swaziland read Jane Austen? To what extent can they ever hope to do so? etc.

h) Responsive reading

A possible answer is that, to be successful, such reading needs to find ways of developing reflection and response to texts as complex cultural artefacts. As Brumfit comments: "If reading is to be viewed as an integrated process, the teaching of reading must do more than simply exercise reading in the target language" (Brumfit 1986:190). This requires emphasis on cultural exchange and dialogue of the kind described in chapter 5.

i) Exemplification of language

The 'scientific' alternative displaces text as located discourse, accepting both linguists' concern with the structural forms of linguistic knowledge, and the conventional view of written language as neutral transcription of (ideal) speech, an embodiment of the 'language itself'. Beyond the technical skills necessary to decipher it, therefore, pedagogic use of text will simply serve to exemplify the linguistic system and reinforce lexical and structural items; for this the medium is incidental, although written language may be preferable for its closeness to the standard, and freedom from errors. According to Davies, this approach might then be transferable to first language English classrooms: "Reading first of all involves language, and it is important that the emphasis in reading for L1 teaching should be where it clearly is in the best L2 practice - on language" (Davies 1979:134).

j) Reinforcement

As argued, in chapter 2, behaviourism turned the priority of speech into an internal, psychological phenomenon. Then, if the written language is dependent on a student's primary speaking and listening (cf for example, Mattingly 1972), its use ought only to follow the formation of a clear picture of the sound system of the second language (Rivers 1968:103; Carroll 1986:109-110); hence the audio-lingual tenet that nothing should be read that had not first been heard (cf Rivers 1964:ch10). Reading progress is expected to follow the sequence of language instruction, enabling students to re-encounter and reinforce the language (especially the vocabulary) they have already mastered.

k) Source of vocabulary

By contrast, West viewed such dogmatism as "nonsensical", arguing that, in normal circumstances, reading vocabulary is always vastly greater than that of speech (1960:17-18); reading should therefore take precedence over speech because it requires from the learner only "Recognition", without the necessity for "Reproduction" (West 1926:115), and can develop much more quickly. Moreover, as Bradley argued, the majority of advanced/specialized vocabulary occurs in written language, and only derivatively in speech (cf §2.3.3).

l) Goal of language learning

Since writing may be regarded as the optimal model of the 'language system', proficiency in the standard written language may be thought of as closest to the goal of language teaching itself (cf Hall 1993:155-7), if not, as in the humanist tradition, of all education. Such views may underlie the opposition to code mixing in Hong Kong secondary schools (cf §8.2.2.3). Reading gives access to the 'highest', most 'intellectualized' and historically richest functional varieties of the language.

m) Reading skills

Since the written language serves more specialized functions than speech, associated with well-defined genres and purposes, effective specialist reading may also be thought to require training in particular purpose-related skills, specific to a language and given uses of text. However, a feature of standardized testing and the packaging of classroom methods as learning technologies has been emphasis on reading as a universal set of component subskills, applicable anywhere, a gradable sequence around which reading materials and teaching procedures can be designed. This is seen to enable teachers to be trained efficiently in their use and despatched to different cultural settings, without need to consider the features of indigenous reading practices (cf Street 1984).

n) Extended practice

In this broadly technological paradigm, reading practice is held to reinforce and automate these various subskills. For cognitivists, learners require extensive practice in the integration of bottom-up and top-down information. Even proficient first language readers can be expected to need practice to make this process automatic in a second language.

o) Input

When psychologized in cognitive terms, the exemplificatory view of written language, combined with the assumption that reading is a 'receptive' skill, turns it into a convenient and extensive source of 'input' to internal acquisition mechanisms (cf §5.3.3), and further enhances its acontextual, value-free status, now underwritten with the authority of universal psychological principles. As with the 'skills' approach, such a rationale permits the exclusion of any reference to the cultural situation of texts, or the reading practices in which they are involved. This, together with the removal of pedagogic responsibility for the learners' progress may naturally recommend it to teachers and administrators, especially those with little connection with, or commitment to, the assumptions of the earlier humanist curriculum. Reading can be regarded as neutral processing, a mechanical algorithm by which linguistic items are derived from the printed page. As such, in pedagogic terms, quantity is more important than content, genre, merit or specific function. This detachment from function and context has led to an (essentially false) identification of such reading with 'the reading habit' (point (f) above), the purposeless 'ludic' activity, which, accordingly, is assumed to be universal.

p) Pleasure

The cultivation of reading for pleasure, 'the reading bug', etc. in language classrooms is normally represented in these neutral technological terms: as providing exposure, practice of reading skills, input to language acquisition mechanisms, etc. (see §5.3.4). In this sense, it has been detached from any considerations of local literate practice, and hence from its conditions of possibility in the western tradition: from features of social organization such as the availability of libraries, domestic quiet space and leisure time for private recreation, conventions of silence on public transport, etc., that are specific to western, and in particular to urban, middle-class culture.

APPENDIX 3

HONG KONG ERS SURVEY: THE QUESTIONNAIRE

Background

The ERS Survey was undertaken in collaboration with the Institute for Language in Education in Hong Kong, to coincide with the first phase of the ERS programme, which involved its introduction into nineteen schools across the colony in October 1991. ILE agreed to translate and administer the questionnaire, and afterwards make available a clerical assistant to enter the coded data into a simple database file for transfer to Edinburgh. Collaboration involved reconciling the aims of the survey with the main practical concerns of ILE, as the programme's administrators: (i) to collect data interpretable as relevant to an assessment of the programme's success; (ii) to avoid placing undue extra burdens on teachers who were already bureaucratically hard-pressed; (iii) to gather the data in a form that would minimize the amount of time needed for processing at ILE.

It was also important that the survey should be as transparent and simple to complete as possible for the young students for whom it was intended, and ensure the highest level of co-operation and reliable response. Since individual interviewing was unfeasible, the instrument chosen was a questionnaire designed to be administered and completed easily without close supervision, consisting largely of pre-coded closed questions.

A pilot version was translated into Chinese and administered to 20 students from two schools in September 1991. It aimed to assess:

i) length and comprehensibility;

ii) the degree of co-operation with questions seeking personal or family details;

iii) which questions were likely to be the most productive;

iv) the probable range of responses to questions about numbers of books, time spent reading, etc. to enable realistic closed categories to be constructed.

Following this, a number of ambiguous questions were dropped or modified. Open responses were largely confined to use in following up preceding closed items, in order to improve speed and clarity and minimize the danger of non-response, and to ensure that a minimum of information would survive should resources subsequently be unavailable for the processing of individual comments (as proved to be the case).

The final questionnaire was translated and administered in early October 1991. The tension between length and coverage was not fully resolved; but, although the final version, containing 57 items, was longer than desirable, analysis of missing responses indicated that non-completion was not a serious problem. The version supplied to ILE is given below.

HONG KONG EXTENSIVE READING SCHEME

QUESTIONNAIRE

Institute of Language in Education, Hong Kong & University of Edinburgh, UK

October 1991

To the Student:

This is a questionnaire about reading. It is ***not*** *a test. We want to find out what young people in Hong Kong think about reading for pleasure in Chinese and English: please try to write what is true for you. If you can't answer a question, leave it and go on to the next.*

The information you give us will be studied at I.L.E. in Hong Kong, and at the University of Edinburgh in Britain. It will help us to make our reading scheme as suitable for you as possible. Nothing you write will be revealed to anyone else, or used to assess you, and your name will not be included in our report.

Thank you for your time and your help.

Now please begin.

READING FOR PLEASURE IN CHINESE (NOT SCHOOL WORK)

These questions are about the reading you do **for pleasure in Chinese**. Please **do not** include homework or the reading you do at school.

1. Do you think reading in Chinese is (please circle):

very easy **quite easy** **sometimes difficult** **often difficult?**

2. What things can make reading in Chinese difficult for you?

vocabulary	[] (a)
grammar	[] (b)
complicated stories	[] (c)
complicated ideas	[] (d)
I have no difficulty	[] (e)

3. Is your normal reading speed in Chinese (please circle):

very fast **quite fast** **about average** **quite slow** **very slow?**

4. Put a tick (✓) beside the things you **like** to read, and a cross (x) beside the things you **don't** like to read. If you have no opinion, leave a blank:

Comics	[] (a)
Fantasy stories	[] (b)
Adventure stories	[] (c)
Romantic stories	[] (d)
Westerns	[] (e)
Science fiction stories	[] (f)
Stories about sport	[] (g)
Funny stories	[] (h)
Stories from or about other countries	[] (i)
Kung Fu stories	[] (j)
Stories by famous writers	[] (k)
Newspapers	[] (l)
News magazines	[] (m)
Magazines about your hobbies and interests	[] (n)
Factual books about history	[] (o)
Factual books about science	[] (p)
Factual books about technology	[] (q)
Factual books about animals	[] (r)
Factual books about sport	[] (s)

5. Do you read in Chinese for pleasure every day?

	Yes	**No**
Books	[]	[] (a)
Newspapers	[]	[] (b)
Comics	[]	[] (c)

6. About how long do you normally spend reading for pleasure in Chinese outside school **each week** (tick one only):

More than 6 hours	[] (a)
Between 3 and 6 hours	[] (b)
Between 1 and 3 hours	[] (c)
Less than 1 hour	[] (d)
I never read Chinese books for pleasure	[] (e)

If you ticked (e), go straight to question 14

7. Do you usually finish the books you read for pleasure in Chinese? (please circle)

Always **Usually** **Not often** **Never**

8. About how often do you finish a book for pleasure in Chinese? (tick one only)

More than one a week	[] (a)
At least one a month	[] (b)
Fewer than one a month	[] (c)

9. When you read a book in Chinese, how long do you normally spend reading before you get up and do something else?

More than 1 hour	[] (a)
Between 30 and 60 minutes	[] (b)
Between 15 and 30 minutes	[] (c)
Less than 15 minutes	[] (d)

10. Where do you usually get Chinese books to read for pleasure? (tick one or two)

council library	[] (a)
school library	[] (b)
friends	[] (c)
bookshop	[] (d)
presents from family and friends	[] (e)

11. Are you reading a book in Chinese for pleasure at the moment? **Yes** **No**

(i) If "**yes**", write its name _____

12. Do you remember the last book you read in Chinese for pleasure? **Yes** **No**

(i) If "**yes**", write its name _____

or circle **I don't remember it**

(ii) Did you finish it? **Yes** **No** **I don't remember**

13. Have you got a favourite book in Chinese? **Yes** **No**

(i) If "**yes**", write its name _____

14. How many Chinese books (approximately) have you personally got at home?

More than 20	[] (a)
Between 10 and 20	[] (b)
Between 5 and 10	[] (c)
Between 1 and 5	[] (d)
None	[] (e)

15 Give these a number to show your order of preference for Chinese:

Reading silently to yourself	[] (a)
Reading aloud	[] (b)
Being read to by someone else	[] (c)

16. Do other people in your family often read? **Yes** **No**

17. Who reads the most in your family? _____

18. How many Chinese books (approximately) are there in your house?

More than 20	[] (a)
Between 10 and 20	[] (b)
Between 5 and 10	[] (c)
Between 1 and 5	[] (d)
None	[] (e)

19. Adults read for many different reasons. Which ones do you think are important? Use this scale:

5=very important 4=quite important 3=sometimes important 2=not very important 1=not important at all

For study or work	_____ (a)
To get information, news, etc.	_____ (b)
To increase their knowledge	_____ (c)
To help with everyday life	_____ (d)
For pleasure and relaxation	_____ (e)

CHINESE READING STRATEGIES

20. What do you usually do when you find a Chinese word you do not understand?

Guess	[] (a)
Use a dictionary	[] (b)
Ask your teacher	[] (c)
Ask your friends	[] (d)
Ignore it and continue reading	[] (e)
Stop reading	[] (f)

21. Do you ever discuss what you are reading in Chinese with anyone? **Yes** **No**

(i) If "**yes**", who? _____

22. When you read things in Chinese, do you prefer

to read quickly to get the main idea	[] (a)
to read slowly to understand every word	[] (b)

READING FOR PLEASURE IN ENGLISH

These questions are about the reading you do (PRE: did[1]) **for pleasure in English** (PRE: before you became a secondary school student). Please **do not** include homework or the reading you are now doing in the HKERS or other reading for school.

23. Put a tick (✓) beside the things you **like** to read in English, and a cross (x) beside the things you **don't** like to read. If you have no opinion, leave a blank:

Comics	[] (a)
Fantasy stories	[] (b)
Adventure stories	[] (c)
Romantic stories	[] (d)
Westerns	[] (e)
Science fiction stories	[] (f)
Stories about sport	[] (g)
Funny stories	[] (h)
Stories from or about other countries	[] (i)
Stories by famous writers	[] (j)
Newspapers	[] (k)
News magazines	[] (l)
Magazines about your hobbies and interests	[] (m)
Factual books about history	[] (n)
Factual books about science	[] (o)
Factual books about technology	[] (p)

[1] Throughout PRE questionnaire, questions are in past tense and relate to "when you were in primary school".

Factual books about animals [] (q)

Factual books about sport [] (r)

24. Do you think reading in English is (please circle):

very easy **quite easy** **sometimes difficult** **often difficult?**

25. What things can make reading in English difficult for you?

vocabulary [] (a)

grammar [] (b)

complicated stories [] (c)

complicated ideas [] (d)

I have no difficulty [] (e)

26. Is your normal reading speed in English (please circle):

very fast **quite fast** **about average** **quite slow** **very slow?**

27. Do you read in English for pleasure every day?

	Yes	**No**
Books	[]	[] (a)
Newspapers	[]	[] (b)
Comics	[]	[] (c)

28. About how long do you normally spend reading for pleasure in English outside school **each week** (tick one only):

More than 6 hours [] (a)

Between 3 and 6 hours [] (b)

Between 1 and 3 hours [] (c)

Less than 1 hour [] (d)

I never read in English for pleasure [] (e)

If you ticked (e), go straight to question 35.

29. Do you usually finish the books you read for pleasure in English? (please circle)

Always **Usually** **Not often** **Never**

30. About how often do you finish a book for pleasure in English? (tick one only)

More than one a week	[] (a)
At least one a month	[] (b)
Fewer than one a month	[] (c)

31. When you read for pleasure in English, how long do you normally spend reading before you get up and do something else?

More than 1 hour	[] (a)
Between 30 and 60 minutes	[] (b)
Between 15 and 30 minutes	[] (c)
Less than 15 minutes	[] (d)

32. Where do you usually get English books to read for pleasure? (tick one or two)

council library	[] (a)
HKERS books	[] (b)
school library	[] (c)
friends	[] (d)
bookshop	[] (e)
presents from family and friends	[] (f)

33. Do you remember the last book you read in English for pleasure? **Yes** **No**

(i) If "**yes**", write its name _____

or circle **I don't remember it**

(ii) Did you finish it? **Yes** **No** **I don't remember**

34. How many English books (approximately) have you personally got at home?

More than 20	[] (a)
Between 10 and 20	[] (b)
Between 5 and 10	[] (c)
Between 1 and 5	[] (d)
None	[] (e)

35. Have you got a favourite book in English? **Yes** **No**

(i) If "**yes**", write its name _____

(ii) When did you read the book?

recently	[] (a)
3 months ago	[] (b)
6 months ago	[] (c)
a year ago	[] (d)

36. Give these a number to show your order of preference for English:

Reading silently to yourself	[] (a)
Reading aloud	[] (b)
Being read to by someone else	[] (c)

37. Does anyone else in your family read English? **Yes** **No**

(i) If "**yes**", who? _____

(ii) Do they ever help you with your reading? **Yes** **No**

ENGLISH READING STRATEGIES

38. What do you usually do when you find an English word you do not understand?

Guess	[] (a)
Use a dictionary	[] (b)
Ask your teacher	[] (c)
Ask your friends	[] (d)
Ignore it and continue reading	[] (e)
Stop reading	[] (f)

39. Do you ever discuss what you are reading with anyone? **Yes** **No**

(i) If "**yes**", who? _____

40. When you read books in English, do you prefer

to read quickly to get the main idea	[] (a)
to read slowly to understand every word	[] (b)

41. Do you always read at the same speed? **Yes** **No**

42. What would help you to read more in English?

easier books	[] (a)
a wider choice of books	[] (b)
more attractive books	[] (c)
better access at school to books in English	[] (d)
more time at school for reading for pleasure	[] (e)
credit for reading for pleasure in the school exam	[] (f)

PERSONAL INFORMATION

This section will help us to understand the information you have given in the other sections. Your name will only be used for record-keeping (you may omit it if you want).

43. Family name _____ Given name _____

44. Sex (please circle): **Boy** **Girl**

45. Date of birth (use numbers): (month) _____ (year) _____

46. Name of school: _____

47. Class: _____

48. Which medium of instruction was used in your primary school?

English	[] (a)
Chinese	[] (b)

49. Was there an extensive reading programme in your primary school ? **Yes** **No**

(i) If "**yes**", what kinds of books were used in it?

Chinese books	[] (a)
English books	[] (b)
Both Chinese and English books	[] (c)

50. How often do you do the following **outside** school (**NOT** homework)?

	Often	Sometimes	Rarely	Never	
listen to English					(a)
speak English					(b)
read English					(c)
write English					(d)

51. Here is a list of things to do in your spare time. Put a number beside each, starting with 1, to show which you like best, which second best, and so on. If your favourite hobbies are not in the list, you can add them at the bottom (remember to give them a number too):

playing sports (including swimming)	_____ (a)
watching television/videos	_____ (b)
going to the cinema	_____ (c)
reading stories	_____ (d)
reading informative books	_____ (d)
using computers (including playing games)	_____ (e)
talking to friends (including on the telephone)	_____ (f)
helping your family	_____ (g)
listening to music	_____ (h)
singing karaoke songs	_____ (i)

_____ _____ (j)

_____ _____ (k)

52. Does your father work? **Yes** **No**

(i) If "**yes**", what is his job? _____

53. Does your mother work? **Yes** **No**

(i) If "**yes**", what is her job? _____

54. How many brothers and sisters have you got? _____

55. What is your favourite school subject? _____

56. What do you want to do when you leave school? _____

57. Are there any other comments you would like to make? Please write them here:

You have now finished the questionnaire. Thank you very much for your help.

APPENDIX 4

HONG KONG ERS SURVEY: POPULATION, DESIGN, LIMITATIONS

4 (a) Participating schools

Nineteen schools were selected by ILE to take part in the first year of the Reading Scheme (which was thereafter expected to grow at a rate of 30 schools per year, to a maximum of approximately 200). Details are set out below. It is necessary to be cautious regarding the generalizability of results to future phases of the ERS, still less to the eleven-year-old population of Hong Kong as a whole, since, in important respects, they were atypical of Hong Kong schools. Because many more applied than were able to participate, the schools selected were those considered most likely to get the scheme established effectively; as a result, they included a higher than normal proportion of schools with pupils in the top ability bands (I and II), and none at all with more than a handful of pupils in the lower bands (IV and V).[1] They also included several 'elite' English medium schools, in which many children had attended English medium primary school, for whom it may be supposed that English and the social connotations of its use were not perceived in quite the same way as they were by the majority of the population. Details of participating schools are set out in Table 4/1.

As a result of the inclusion of six single-sex girls' schools, compared with only one boys' school, girls outnumbered boys in this population by almost two to one (cf Table 4/12 below). The girls' schools were all in the upper (professional) social range, as expressed in terms of reported father's occupations, a fact which it is necessary to bear in mind in making comparisons between genders.

[1] Ability bands I (highest) to V (lowest) are derived from scores in the Hong Kong Attainment Test at the end of primary school. However, their use remains unofficial, and no information about individual students was available.

Table 4/1: Schools participating in the Hong Kong Extensive Reading Survey

Code	PRE	POST	Sex	Pr.med[2]	BAND	AREA	MEDIUM	Notes
01	99	97	mixed	14	I	3	mixed	
02	100	101	girls	5	I	1	ENGLISH	Gov't school
03	120	122	mixed	3	I	3	mixed	
04	59	58	mixed	11	III	1	mixed	
05	99	93	girls	9	I/II	2b	mixed	
06	139	128	girls	18	III/II	1	mixed	Gov't school
07	100	91	mixed	6	I-III	3	mixed	Art-sports school
08	99	85	mixed	8	I-II	2b	mixed	Gov't school
09	101	101	mixed	18	I-II	2b	mixed	
10	113	99	girls	32	I	2b	ENGLISH	+some II & III
11	121	120	mixed	6	I	3	mixed	
12	80	67	mixed	6	II/I	2b	mixed	
13	80	79	girls	41	I	1	ENGLISH	Elite school
14	140	134	boys	16	II/III	2b	mixed	Technical school
15	114	102	mixed	14	III	1	mixed	Gov't tech school
16	119	115	girls	14	II/III	1	CHINESE	
17	80	40	mixed	11	II/III	3	mixed	
18	42	44	mixed	8	I/II	3	mixed	
19	40	31	mixed	11	III/II	3	mixed	
	---	---						
	1845	1707						

AREAS:
1 = Hong Kong
2a = Kowloon (better-off areas)
2b = Kowloon (poorer areas)
3 = New Territories

[2] Percentage attending English medium primary schools

4 (b) Sample design

The scheme involved some 90 first year classes with approximately 40 students in each. In the interests of reliability and completeness, the questionnaire was administered to all the students concerned, amounting to a final total of 3,552 included in the data analysis. For certain purposes it may have been more efficient to select a stratified sample of this population, given the high degree of clustering within schools and of variability between them; nevertheless, since it was not intended to treat any particular category (school, social class, ability band, etc.) as the sole basis for the analysis, it seemed desirable to preserve as much information as possible, and to take advantage of the greater reliability provided by the large numbers involved. In this way, moreover, the possibility of sampling errors could be avoided: statements derived from the data regarding the ERS population would, in effect, become matters of description rather than inference.

The population was split into random halves at the level of individual classes, with (approximately) the first twenty names on each class list completing the questionnaire in October 1991, and the other half completing it in July 1992 (the only substantive difference between PRE and POST questionnaires was the inclusion in the latter of the ERS among possible sources of books). No student completed the questionnaire more than once. This procedure, which may be regarded as a form of replicated sampling (cf Moser and Kalton 1971:124), was adopted to give an indication of the stability and validity of students' responses, and to enable genuine changes and their magnitude to be reliably detected, avoiding the problem of test effect.

Thus. with two slight exceptions (in schools 16 and 17; see following tables), more or less equal numbers from every class were included in each half, ensuring that the two halves reproduced in detail the composition of the whole population, and no imbalance was introduced by the disproportionate concentration of more or less able students in one half, etc. (although no data is available concerning any changes - such as change of teacher - that may have occurred within individual classes). The procedure is illustrated in Table 4/3 (following page).

Table 4/3: Sampling procedure

			POPULATION									TOTALS
SCHOOLS:			1			2			3 ...			19
CLASSES:			A	B	C ...	A	B	C ...	A	B ...		90[3]
STUDENTS:			40	40	40	40	40	40	40	40		
PRE	Oct. '91	1st half:	20	20	20	20	20	20	20	20		1845
POST	July '92	2nd half:	20	20	20	20	20	20	20	20		1707
Total included in survey												**3552**

The exact numbers of students in participating classes are shown in Table 4/4 (following page).

[3] 92 classes in PRE survey; 90 in POST.

Table 4/4: Participating classes

Class		A	B	C	D	E	F	G	H	Total
School										
01	Pre	19	20	20	20	20				99
	Post	18	22	17	22	18				97
02	Pre	21	20	19	20	20				100
	Post	20	20	20	20	21				101
03	Pre	20	20	20	20	20	20			120
	Post	22	21	21	18	19	21			122
04	Pre	20	19	20						59
	Post	19	20	19						58
05	Pre	21	19	20	20	19				99
	Post	17	20	18	19	19				93
06	Pre	20	20	20	20	20	19	20		139
	Post	17	17	20	20	16	20	18		128
07	Pre	20	20	20	20	20				100
	Post	18	21	19	13	20				91
08	Pre	20	19	20	20	20				99
	Post	19	16	17	18	15				85
09	Pre	21	20	20	20	20				101
	Post	21	21	21	18	20				101
10	Pre	23	22	23	22	23				113
	Post	20	19	20	19	21				99
11	Pre	20	20	20	20	20	21			121
	Post	19	21	18	21	21	20			120
12	Pre	20	20	20	20					80
	Post	18	18	18	13					67
13	Pre	20	20	20	20					80
	Post	19	20	20	20					79
14	Pre	20	20	20	20	20	20	20		140
	Post	18	17	21	18	20	19	21		134
15	Pre	20	20	20	16	18	20			114
	Post	16	16	18	18	16	16			100
16	Pre	20	20	19	19	21	20	*	*	119
	Post	21	21	19	21	*	*	16	17	115
17	Pre	20	21	20	19					80
	Post	20	20	*	*					40
18	Pre	23	19							42
	Post	24	20							44
19	Pre	20	20							40
	Post	14	17							31

Totals:

PRE 1845

POST[4] 1705

[4] Two students missing in School 15 (POST)

4 (c) Reading indices

Analysis was carried out in Edinburgh using the SPSS statistical package. The survey produced a mass of data, much of it of potential interest, particularly with respect to the changes that occurred between PRE and POST. In order to gain a more manageable insight into the nature of reading in this population, three simple, unweighted indices were constructed from responses relating to the three principal focuses of the survey:

(i) reading fluency and ability
(ii) actual reading activity
(iii) home support for reading

labelled EASE, ACT and HOME respectively. The constituent variables were chosen for their relevance to the attribute in question, and were, in general, significantly correlated, implying at least some measure of shared variance, although, in the nature of such data, the actual amounts were small. They were also chosen to produce an approximately normal distribution, which was less possible for English reading, but was most nearly achieved in the case of ACT, for which the range was greater. Details are set out in Tables 4/5 and 4/6 (following pages).

Table 4/5: Composition of reading indices: Chinese

Index	%[5]	Description
EASE	20	Reading is 'very easy'
	25	Reading speed is 'very fast' or 'quite fast'
	53	Sum of sources of difficulty (vocabulary, grammar, stories, ideas) = 0 or 1
	62	Reads quickly for the main idea
ACT	59	Reads books for pleasure every day
	64	Reads for more than an hour per week
	25	Always finishes books
	25	Reads more than one book per week
	64	Mentions the title of at least one book
	16	Reads for more than an hour at a time
	63	Uses the council library
	54	Prefers to read silently
HOME	15	Receives books as gifts from family and friends
	43	Mother and/or father read
	50	Household has more than 10 books.
	8	Discusses reading with mother, father or siblings

[5] Percentages of students in each category in PRE.

Table 4/6: Composition of reading indices: English

Index	%[6]	Description
EASE	20	Reading is 'very easy' or 'quite easy'
	10	Reading speed is 'very fast' or 'quite fast'
	40	Sum of sources of difficulty (vocabulary, grammar, stories, ideas) = 0 or 1
	37	Reads quickly for the main idea
ACT	62	Reads books for pleasure every day
	29	Reads for more than an hour per week
	9	Always finishes books
	9	Reads more than one book per week
	15	Mentions the title of at least one book
	7	Reads for more than an hour at a time
	45	Uses the council library
	50	Prefers to read silently
HOME	12	Receives books as gifts from family and friends
	21	Mother and/or father read English
	46	Receives help with English reading at home
	5	Discusses reading with mother, father or siblings

[6] Percentages of students in each category in PRE.

PRE-POST COMPARISON OF READING INDICES

CHINESE

	PRE		cumulative	POST		cumulative
	N	%	%	N	%	%
6. EASE						
0	293	15.9	15.9	262	15.3	15.3
1	644	34.9	50.8	598	35.0	50.4
2	532	28.8	79.6	479	28.1	78.4
3	267	14.5	94.1	256	15.0	93.4
4	109	5.9	100.0	112	6.6	100.0
Mean	1.596	s.d.	1.097	1.624	s.d.	1.112
7. ACT						
0	71	3.8	3.8	98	5.7	5.7
1	156	8.5	12.3	181	10.6	16.3
2	247	13.4	25.7	252	14.8	31.1
3	365	19.8	45.5	292	17.1	48.2
4	376	20.4	65.9	304	17.8	66.0
5	312	16.9	82.8	267	15.6	81.7
6	206	11.2	93.9	166	9.7	91.4
7	87	4.7	98.6	101	5.9	97.3
8	25	1.4	100.0	46	2.7	100.0
Mean	3.715	s.d.	1.813	3.622	s.d.	2.001
8. HOME						
0	507	27.5	27.5	473	27.7	27.7
1	696	37.7	65.2	686	40.2	67.9
2	490	26.6	91.8	439	25.7	93.6
3	144	7.8	99.6	101	5.9	99.5
4	8	.4	100.0	8	.5	100.0
Mean	1.160	s.d.	.931	1.112	s.d.	.895

PRE-POST COMPARISON OF READING INDICES

ENGLISH

	PRE		cumulative	POST		cumulative
	N	%	%	N	%	%
9. EASE						
0	778	42.2	42.2	637	37.3	37.3
1	608	33.0	75.1	627	36.7	74.0
2	278	15.1	90.2	267	15.6	89.7
3	133	7.2	97.4	117	6.9	96.5
4	48	2.6	100.0	59	3.5	100.0
Mean	.951	s.d.	1.045	1.024	s.d.	1.056
10. ACT						
0	236	12.8	12.8	172	10.1	10.1
1	413	22.4	35.2	367	21.5	31.6
2	432	23.4	58.6	315	18.5	50.0
3	391	21.2	79.8	323	18.9	69.0
4	231	12.5	92.3	252	14.8	83.7
5	87	4.7	97.0	153	9.0	92.7
6	41	2.2	99.2	69	4.0	96.7
7	11	.6	99.8	45	2.6	99.4
8	3	.2	100.0	11	.6	100.0
Mean	2.253	s.d.	1.541	2.669	s.d.	1.861
11. HOME						
0	836	45.3	45.3	681	39.9	39.9
1	586	31.8	77.1	600	35.1	75.0
2	333	18.0	95.1	300	17.6	92.6
3	77	4.2	99.3	116	6.8	99.4
4	13	.7	100.0	10	.6	100.0
Mean	.832	s.d.	.914	.930	s.d.	.946

4 (d) Gender and socioeconomic groups

The principal dimensions of the analysis were gender and socioeconomic group. Genders were distributed as follows:

Table 4/12: Gender composition of the ERS population

	PRE		POST			
	N	%	N	%	Total	%
Boys	656	35.6	609	35.7	1265	35.6
Girls	1168	63.3	1070	62.7	2238	63.0
Missing	21	1.1	28	1.7	49	1.4

Socioeconomic group was determined on the basis of the father's reported occupation, classified in Hong Kong on the following 7-point scale[7] (with frequencies for the whole population):

Table 4/13: Father's occupation (PRE and POST combined)

Category	Label	N	%
0	Not working	239	6.7
1	Professional	280	7.9
2	Managerial: non-routine	731	20.6
3	Routine white-collar	376	10.6
4	Skilled manual	290	8.2
5	Semi-skilled manual	1387	39.0
6	Other	41	1.2
	No response	208	5.9
		-------	-------
	TOTALS	3552	100.0

For broad comparisons, these were combined into two categories: 1-3 'White collar'; 4-5 'Manual', with others excluded.

Table 4/14: Father's occupation (simplified)

	PRE			POST		
	N	%	valid %	N	%	valid %
White collar	757	41.0	45.1	630	36.9	45.5
Manual	921	49.9	54.9	756	44.3	54.5
Others	167	9.1		321	18.8	

[7] Adapted from the Registrar General's *Classification of Occupation* (cf Yu and Atkinson 1988b:309).

4 (e) Limitations

A number of practical limitations and threats to the validity of responses remained in the survey, for which there were no easy remedies.

(i) Physical and linguistic distance between Edinburgh and Hong Kong prevented any check on the administration of the questionnaire, its Chinese translation, or initial data processing. A number of errors and miscodings inevitably occurred during the reading and entry of the data; while it was subsequently possible to correct or eliminate many of these, a proportion undoubtedly remain.

(ii) It is impossible to know how individual students understood particular questions, for example regarding different genres or types of reading matter ('newspapers' for example), or the extent to which their responses corresponded to their actual activities in given circumstances; questions about reading 'for pleasure every day' allow no scope for motivated variations that may be of interest, while positive responses can hardly be taken at face value. In particular, it is probable that, for many in this population, at least in the PRE sample, items relating to English reading were hypothetical; moreover, the distinction between school reading and reading for pleasure may have meant little.

(iii) Since the questionnaire itself was long, presented in writing and required to be completed in a limited time, it will have tended to discriminate against less able readers; however, there is no evidence of a concentration of missing responses towards the end of the questionnaire. The English section, which appeared second, was adequately completed in almost all cases.

(iv) The direction permitting those who responded 'I never read for pleasure' to questions 6 and 28 to skip the sections dealing with actual reading, may have encouraged students to avoid these questions. In each case the whole section was omitted by:

PRE: Chinese 104 (5.6%); English 370 (20.1%)
POST: Chinese 165 (9.7%); English 329 (19.3%)

(v) Though helping to simplify responses and improve reliability, the use of closed questions channelled them into categories determined by the observers' interests rather than those of the observed; hence the latter had little opportunity for expression.

(vi) Questions relating to outside interests and hobbies, added after the pilot stage, failed to produce interpretable results, and were excluded from the analysis. Others relevant to the study of reading practices, such as where and when reading was done, were dropped from the final version for reasons of length.

(vii) In contrast to the 1988 study, no independent information was available regarding the extent or success of ERS implementation in individual schools; as that study makes clear, a programme lasting a school year on paper may amount to as little as fifteen (mostly discontinuous) weeks' operation in practice (cf ILE 1988: Appendix 10).

(viii) Much of the variance in the population appeared to be dependent on school rather than directly on socioeconomic group membership. The latter may not therefore provide a very clear index for the analysis, although certain differences do clearly emerge.

The results should be viewed with these qualifications in mind. The low correlations obtained in most cases may indicate relatively high levels of 'noise' in the data, and the low power of the survey to distinguish genuine phenomena. The question of power deserves a note. Emphasis in empirical studies is usually on levels of significance (p) (i.e. avoidance of Type I error), while power (avoidance of Type II error) is neglected. The temptation may be to interpret low levels of significance, strictly their complement (1-p), as an expression of the reliability of the results, to be 'explained' theoretically; when, in reality, it is beyond the power of the method to differentiate the true effects from the noise (cf Tversky and Kahneman 1982:27; cf Gill 1993). In this instance, because of the large sample sizes, low levels of significance were easily obtained.

APPENDIX 5

HONG KONG ERS SURVEY: RESPONSES TO PRE AND POST QUESTIONNAIRES

The following tables set out PRE and POST frequencies for each variable in the reading survey, both Chinese and English (unless indicated otherwise), in the following order:

Chinese tables	English tables	LABEL
		Sources of difficulty, etc.
1	22	How easy is reading?
2	23	Sources of difficulty
3	24	Normal reading speed
4	25	**Preferences**
		Types of reading by genre
5	26	**Daily reading**
		Books, newspapers, comics
		General reading habits
6	27	Time spent reading each week
7	28	How often do you finish books once started?
8	29	How often do you finish a book for pleasure?
9	30	Time spent reading at one sitting
10	31	**Sources of reading matter**
		Library, ERS, friends, bookshop, etc.
		Actual reading
11		Are you currently reading a book for pleasure? (Chinese only)
11a		Title of current book (Chinese only)
12	32	Do you remember the last book you read for pleasure?
12a	32a	Title of last book
12b	32b	Did you finish last book?
13	33	Have you got a favourite book?
13a	33a	Title of favourite book
	33b	When did you last read favourite book? (English only)
14	34	How many books of your own have you got?
15	35	Preferences for silent reading, being read to, etc.
		Reading activity and support at home
16	36	Do other people in family read?
16a	36a	Who reads most in family?
	36b	Do they ever help with your reading? (English only)

Chinese tables	English tables	LABEL
17	37	Do you ever discuss reading with anyone?
17a	37a	Who do you discuss reading with?
18		How many books are there in your home? (Chinese only)
		Adult reasons for reading (Chinese only)
19a-e		For work, information, pleasure, etc.
		Reading strategies
20	38	a) For unknown words
		b) For texts
21	39	Do you prefer to read quickly for main idea or slowly to understand words?
	40	Do you always read at the same speed?
	41	**Measures to improve English reading at school** (English only)
	42	**Exposure to English outside the classroom**
	42a	Listening
	42b	Speaking
	42c	Reading
	42d	Writing
		Primary school
	43	Medium of instruction in primary school
	44	Extensive reading scheme in primary school
	45	Books used in primary reading scheme
		Constructed variables
46	48	Sum of sources of difficulty
47	49	Total numbers of books named

PRE-POST COMPARISON: CHINESE

	PRE			POST		
	N	%	valid %	N	%	valid %
1. Reading in Chinese is:						
Very easy	368	19.9	20.0	344	20.2	20.2
Quite easy	880	47.7	47.9	858	50.3	50.5
Sometimes difficult	587	31.8	31.9	479	28.1	28.2
Often difficult	3	.2	.2	18	1.1	1.1
No response	7	.4		8	.5	
2. What can make reading in Chinese difficult for you?						
Vocabulary	955	51.8	51.8	772	45.2	45.3
Grammar	701	38.0	38.0	607	35.6	35.6
Complicated stories	368	19.9	19.9	336	19.7	19.7
Complicated ideas	877	47.5	47.6	892	52.3	52.3
No difficulty	158	8.6	8.6	166	9.7	9.9
No response	15	.8		25	1.5	
3. Normal reading speed in Chinese						
Very fast	66	3.6	3.6	91	5.3	5.4
Quite fast	400	21.7	21.9	314	18.4	18.5
About average	1215	65.9	66.5	1120	65.6	66.1
Quite slow	137	7.4	7.5	147	8.6	8.7
Very slow	10	.5	.5	22	1.3	1.3
No response	17	.9		13	.8	

CHINESE	PRE N	%	valid %	POST N	%	valid %
4. Preferences						
Comics						
Blank	211	11.4	11.4	193	11.3	11.3
Yes	1161	62.9	62.9	1103	64.6	64.6
No	473	25.6	25.6	411	24.1	24.1
Fantasy stories						
Blank	211	11.4	11.4	236	13.8	13.8
Yes	1076	58.3	58.3	935	54.8	54.8
No	558	30.2	30.2	536	31.4	31.4
Adventure stories						
Blank	184	10.0	10.0	219	12.8	12.8
Yes	1299	70.4	70.4	1064	62.3	62.3
No	362	19.6	19.6	424	24.8	24.8
Romantic stories						
Blank	308	16.7	16.7	269	15.8	15.8
Yes	660	35.8	35.8	735	43.1	43.1
No	877	47.5	47.5	703	41.2	41.2
Westerns						
Blank	335	18.2	18.2	336	19.7	19.7
Yes	398	21.6	21.6	325	19.0	19.0
No	1112	60.3	60.3	1046	61.3	61.3
Science fiction stories						
Blank	178	9.6	9.6	201	11.8	11.8
Yes	1191	64.6	64.6	1054	61.7	61.7
No	476	25.8	25.8	452	26.5	26.5
Stories about sport						
Blank	292	15.8	15.8	307	18.0	18.0
Yes	765	41.5	41.5	593	34.7	34.7
No	788	42.7	42.7	807	47.3	47.3
Funny stories						
Blank	147	8.0	8.0	156	9.1	9.1
Yes	1457	79.0	79.0	1288	75.5	75.5
No	241	13.1	13.1	263	15.4	15.4
Stories from or about other countries						
Blank	337	18.3	18.3	284	16.6	16.6
Yes	904	49.0	49.0	778	45.6	45.6
No	604	32.7	32.7	645	37.8	37.8

CHINESE	PRE N	%	valid %	POST N	%	valid %
Stories by famous writers						
Blank	298	16.2	16.2	287	16.8	16.8
Yes	934	50.6	50.6	819	48.0	48.0
No	613	33.2	33.2	601	35.2	35.2
Kung Fu stories						
Blank	270	14.6	14.6	246	14.4	14.4
Yes	529	28.7	28.7	549	32.2	32.2
No	1046	56.7	56.7	912	53.4	53.4
Newspapers						
Blank	334	18.1	18.1	331	19.4	19.4
Yes	991	53.7	53.7	905	53.0	53.0
No	520	28.2	28.2	471	27.6	27.6
News magazines						
Blank	372	20.2	20.2	349	20.4	20.4
Yes	608	33.0	33.0	555	32.5	32.5
No	865	46.9	46.9	803	47.0	47.0
Magazines about your hobbies and interests						
Blank	308	16.7	16.7	321	18.8	18.8
Yes	1012	54.9	54.9	811	47.5	47.5
No	525	28.5	28.5	575	33.7	33.7
Factual books about history						
Blank	290	15.7	15.7	292	17.1	17.1
Yes	921	49.9	49.9	721	42.2	42.2
No	634	34.4	34.4	694	40.7	40.7
Factual books about science						
Blank	280	15.2	15.2	305	17.9	17.9
Yes	1122	60.8	60.8	854	50.0	50.0
No	443	24.0	24.0	548	32.1	32.1
Factual books about technology						
Blank	302	16.4	16.4	343	20.1	20.1
Yes	995	53.9	53.9	776	45.5	45.5
No	548	29.7	29.7	588	34.4	34.4
Factual books about animals						
Blank	210	11.4	11.4	260	15.2	15.2
Yes	1338	72.5	72.5	1081	63.3	63.3
No	297	16.1	16.1	366	21.4	21.4

CHINESE	PRE N	%	valid %	POST N	%	valid %
Factual books about sport						
Blank	308	16.7	16.7	315	18.5	18.5
Yes	851	46.1	46.1	709	41.5	41.5
No	686	37.2	37.2	683	40.0	40.0
5. Do you read in Chinese for pleasure every day?						
Books						
Yes	1091	59.1	62.9	958	56.1	60.0
No	643	34.9	37.1	639	37.4	40.0
No response	111	6.0		109	6.4	
Newspapers						
Yes	1181	64.0	67.3	1156	67.7	71.5
No	575	31.2	32.7	460	26.9	28.5
No response	89	4.8		90	5.3	
Comics						
Yes	582	31.5	34.4	642	37.6	41.5
No	1108	60.1	65.6	906	53.1	58.5
No response	155	8.4		159	9.3	
6. Time spent reading for pleasure in Chinese outside school each week						
More than 6 hours	105	5.7	5.7	138	8.1	8.2
Between 3 and 6 hours	306	16.6	16.7	260	15.2	15.4
Between 1 and 3 hours	770	41.7	42.1	663	38.8	39.2
Less than 1 hour	565	30.6	30.9	484	28.4	28.6
I never read Chinese	81	4.4	4.4	148	8.7	8.7
No response	18	1.0		14	.8	
7. How often do you finish the books you read for pleasure in Chinese?						
Always	463	25.1	26.6	359	21.0	23.4
Usually	1059	57.4	60.9	940	55.1	61.2
Not often	214	11.6	12.3	231	13.5	15.0
Never	2	.1	.1	7	.4	.5
No response	107	5.8		170	10.0	

CHINESE	PRE N	%	valid %	POST N	%	valid %
8. How often do you finish a book for pleasure in Chinese?						
More than one a week	466	25.3	26.9	397	23.3	25.8
At least one a month	1041	56.4	60.2	886	51.9	57.7
Fewer than one a month	223	12.1	12.9	253	14.8	16.5
No response	115	6.2		171	10.0	
9. Time spent reading for pleasure in Chinese at one sitting						
More than 1 hour	295	16.0	17.1	364	21.3	23.7
Between 30 and 60 mins	939	50.9	54.4	758	44.4	49.3
Between 15 and 30 mins	432	23.4	25.0	344	20.2	22.4
Less than 15 minutes	59	3.2	3.4	70	4.1	4.6
No response	120	6.5		171	10.0	
10. Sources of Chinese books to read for pleasure						
Council library	1158	62.8	62.8	1050	61.5	61.7
School library	1219	66.1	66.1	850	49.8	49.9
Friends	421	22.8	22.8	420	24.6	24.6
Bookshop	834	45.2	45.2	703	41.2	41.2
Presents	272	14.7	14.8	209	12.2	12.3
11. Are you currently reading a book for pleasure in Chinese?						
Yes	599	32.5	34.9	384	22.5	25.1
No	1115	60.4	65.1	1148	67.3	74.9
No response	131	7.1		175	10.3	
11a. If "yes", write its title						
Blank	1237	67.0	67.7	1320	77.3	78.2
Title given	589	31.9	32.3	367	21.5	21.8
Title not given (11=Yes)	18	1.0		18	1.1	

CHINESE	PRE N	%	valid %	POST N	%	valid %
12. Do you remember the last book you read for pleasure in Chinese?						
Yes	790	42.8	46.5	562	32.9	37.1
No	909	49.3	53.5	953	55.8	62.9
No response	146	7.9		192	11.2	
12a. If "yes", write its title						
Blank	777	42.1	42.2	921	54.0	54.1
Title given	678	36.7	36.8	442	25.9	26.0
I don't remember it	386	20.9	21.0	338	19.8	19.9
Title not given (12=Yes)	4	.2		6	.4	
12b. Did you finish it?						
Blank	218	11.8	12.1	274	16.1	16.3
Yes	1181	64.0	65.4	989	57.9	58.7
No	178	9.6	9.9	182	10.7	10.8
I don't remember	228	12.4	12.6	239	14.0	14.2
No response (12=Yes)	40	2.2		23	1.3	
13. Have you got a favourite book in Chinese?						
Yes	896	48.6	52.4	676	39.6	44.6
No	813	44.1	47.6	841	49.3	55.4
No response	136	7.4		190	11.1	
13a. If "yes", write its title						
Blank	945	51.2	51.9	1027	60.2	61.4
Title given	873	47.3	48.0	645	37.8	38.6
Title not given (13=Yes)	25	1.4		33	1.9	
14. How many Chinese books (approximately) of your own have you got at home?						
More than 20	288	15.6	15.7	256	15.0	15.1
Between 10 and 20	313	17.0	17.1	271	15.9	15.9
Between 5 and 10	402	21.8	22.0	410	24.0	24.1
Between 1 and 5	616	33.4	33.6	566	33.2	33.3
None	212	11.5	11.6	197	11.5	11.6
No response	14	.8		7	.4	

CHINESE	PRE N	%	valid %	POST N	%	valid %
15. Order of preference for Chinese reading						
Reading silently to yourself						
Like best	991	53.7	57.8	1131	66.3	70.1
Like second best	328	17.8	19.1	249	14.6	15.4
Like least	395	21.4	23.0	233	13.6	14.4
No response	131	7.1		93	5.4	
Reading aloud						
Like best	185	10.0	10.8	160	9.4	10.2
Like second best	745	40.4	43.5	718	42.1	45.6
Like least	783	42.4	45.7	698	40.9	44.3
No response	132	7.2		131	7.7	
Being read to by someone else						
Like best	540	29.3	31.5	340	19.9	21.6
Like second best	640	34.7	37.4	600	35.1	38.1
Like least	532	28.8	31.1	634	37.1	40.3
No response	133	7.2		133	7.8	
16. Do other people in your family often read in Chinese?						
Yes	1384	75.0	76.5	1199	70.2	71.2
No	425	23.0	23.5	485	28.4	28.8
No response	36	2.0		22	1.3	
16a. Who reads the most in Chinese in your family?						
Blank	73	4.0	4.0	123	7.2	7.2
Mother	381	20.7	20.7	342	20.0	20.0
Father	408	22.1	22.1	385	22.6	22.6
Siblings	630	34.1	34.1	527	30.9	30.9
Others	327	17.7	17.7	291	17.0	17.0
Person not given	26	1.4	1.4	39	2.3	2.3

CHINESE	PRE N	%	valid %	POST N	%	valid %
17. Do you ever discuss what you are reading in Chinese with anyone?						
Yes	672	36.4	36.9	558	32.7	33.0
No	1151	62.4	63.1	1135	66.5	67.0
No response	22	1.2		13	.8	
17a. If "yes", who?						
Blank	1162	63.0	63.0	1144	67.0	67.1
Mother	44	2.4	2.4	35	2.1	2.1
Father	39	2.1	2.1	21	1.2	1.2
Siblings	70	3.8	3.8	61	3.6	3.6
Classmates	259	14.0	14.0	200	11.7	11.7
Friends	200	10.8	10.8	193	11.3	11.3
Others	58	3.1	3.1	29	1.7	1.7
Person not given	13	.7	.7	23	1.3	1.3
18. How many Chinese books (approximately) are there in your house?						
More than 20	595	32.2	32.6	515	30.2	30.4
Between 10 and 20	331	17.9	18.1	331	19.4	19.5
Between 5 and 10	374	20.3	20.5	356	20.9	21.0
Between 1 and 5	342	18.5	18.7	365	21.4	21.5
None	184	10.0	10.1	128	7.5	7.6
No response	19	1.0		12	.7	

CHINESE	PRE N	%	valid %	POST N	%	valid %
19. Adult reasons for reading						
19a. For study or work						
Very important	548	29.7	30.9	548	32.1	33.2
Quite important	517	28.0	29.1	477	27.9	28.9
Sometimes important	423	22.9	23.8	374	21.9	22.7
Not very important	142	7.7	8.0	142	8.3	8.6
Not important at all	144	7.8	8.1	109	6.4	6.6
No response	71	3.8		56	3.3	
19b. To get information, news, etc.						
Very important	547	29.6	30.8	478	28.0	28.8
Quite important	668	36.2	37.6	610	35.7	36.7
Sometimes important	346	18.8	19.5	338	19.8	20.4
Not very important	156	8.5	8.8	157	9.2	9.5
Not important at all	61	3.3	3.4	77	4.5	4.6
No response	67	3.6		46	2.7	
19c. To increase their knowledge						
Very important	637	34.5	35.8	556	32.6	33.7
Quite important	653	35.4	36.7	596	34.9	36.1
Sometimes important	307	16.6	17.2	309	18.1	18.7
Not very important	141	7.6	7.9	135	7.9	8.2
Not important at all	42	2.3	2.4	55	3.2	3.3
No response	65	3.5		55	3.2	
19d. To help with everyday life						
Very important	175	9.5	9.9	148	8.7	9.0
Quite important	435	23.6	24.5	387	22.7	23.5
Sometimes important	643	34.9	36.2	579	33.9	35.2
Not very important	385	20.9	21.7	389	22.8	23.6
Not important at all	136	7.4	7.7	144	8.4	8.7
No response	71	3.8		59	3.5	
19e. For pleasure and relaxation						
Very important	197	10.7	11.1	223	13.1	13.5
Quite important	295	16.0	16.7	239	14.0	14.5
Sometimes important	399	21.6	22.5	364	21.3	22.0
Not very important	511	27.7	28.9	407	23.8	24.6
Not important at all	369	20.0	20.8	419	24.5	25.3
No response	74	4.0		53	3.1	

CHINESE	PRE N	%	valid %	POST N	%	valid %
20. Reading strategies for unknown words in Chinese						
Guess	1017	55.1	55.1	905	53.0	53.1
Use a dictionary	802	43.5	43.5	667	39.1	39.2
Ask your teacher	177	9.6	9.6	124	7.3	7.3
Ask your friends	258	14.0	14.0	243	14.2	14.3
Ignore it	303	16.4	16.4	363	21.3	21.3
Stop reading	8	.4	.4	28	1.6	1.6
21. Reading strategies for texts in Chinese						
Quickly for main ideas	1144	62.0	62.4	1074	62.9	63.7
Slowly for each word	688	37.3	37.6	611	35.8	36.3
No response	13	.7		21	1.2	

PRE-POST COMPARISON: ENGLISH

	PRE			POST		
	N	%	valid %	N	%	valid %
22. Reading in English is:						
Very easy	77	4.2	4.2	42	2.5	2.5
Quite easy	291	15.8	16.0	269	15.8	15.9
Sometimes difficult	1197	64.9	65.7	1241	72.7	73.6
Often difficult	258	14.0	14.2	135	7.9	8.0
No response	22	1.2		19	1.1	
23. What can make reading in English difficult for you?						
Vocabulary	1437	77.9	78.0	1222	71.6	71.8
Grammar	1087	58.9	58.9	1009	59.1	59.2
Complicated stories	545	29.5	29.6	461	27.0	27.0
Complicated ideas	831	45.0	45.0	758	44.4	44.5
No difficulty	42	2.3	2.3	35	2.1	2.1
No response	12	.7		22	1.3	
24. Normal reading speed in English						
Very fast	20	1.1	1.1	21	1.2	1.2
Quite fast	161	8.7	8.8	146	8.6	8.6
About average	954	51.7	52.3	926	54.2	54.9
Quite slow	554	30.0	30.4	468	27.4	27.7
Very slow	134	7.3	7.4	127	7.4	7.5
No response	22	1.2		18	1.1	

ENGLISH	PRE N	%	valid %	POST N	%	valid %
25. Preferences						
Comics						
Blank	195	10.6	10.6	193	11.3	11.3
Yes	1181	64.0	64.0	1063	62.3	62.3
No	469	25.4	25.4	450	26.4	26.4
Fantasy stories						
Blank	308	16.7	16.7	289	16.9	16.9
Yes	706	38.3	38.3	651	38.1	38.2
No	831	45.0	45.0	766	44.9	44.9
Adventure stories						
Blank	266	14.4	14.4	228	13.4	13.4
Yes	979	53.1	53.1	855	50.1	50.1
No	600	32.5	32.5	623	36.5	36.5
Romantic stories						
Blank	335	18.2	18.2	274	16.1	16.1
Yes	560	30.4	30.4	703	41.2	41.2
No	950	51.5	51.5	729	42.7	42.7
Westerns						
Blank	358	19.4	19.4	330	19.3	19.3
Yes	406	22.0	22.0	395	23.1	23.2
No	1081	58.6	58.6	981	57.5	57.5
Science fiction stories						
Blank	303	16.4	16.4	301	17.6	17.6
Yes	814	44.1	44.1	745	43.6	43.7
No	728	39.5	39.5	660	38.7	38.7
Stories about sport						
Blank	354	19.2	19.2	347	20.3	20.3
Yes	596	32.3	32.3	498	29.2	29.2
No	895	48.5	48.5	861	50.4	50.5
Funny stories						
Blank	175	9.5	9.5	176	10.3	10.3
Yes	1363	73.9	73.9	1223	71.6	71.7
No	307	16.6	16.6	307	18.0	18.0
Stories from or about other countries						
Blank	339	18.4	18.4	314	18.4	18.4
Yes	784	42.5	42.5	653	38.3	38.3
No	722	39.1	39.1	739	43.3	43.3

ENGLISH	PRE N	%	valid %	POST N	%	valid %
Stories by famous writers						
Blank	350	19.0	19.0	325	19.0	19.1
Yes	677	36.7	36.7	615	36.0	36.1
No	818	44.3	44.3	765	44.8	44.9
Newspapers						
Blank	403	21.8	21.8	365	21.4	21.4
Yes	457	24.8	24.8	420	24.6	24.6
No	985	53.4	53.4	921	54.0	54.0
News magazines						
Blank	395	21.4	21.4	371	21.7	21.7
Yes	351	19.0	19.0	299	17.5	17.5
No	1099	59.6	59.6	1036	60.7	60.7
Magazines about your hobbies and interests						
Blank	378	20.5	20.5	372	21.8	21.8
Yes	784	42.5	42.5	631	37.0	37.0
No	683	37.0	37.0	703	41.2	41.2
Factual books about history						
Blank	361	19.6	19.6	359	21.0	21.0
Yes	649	35.2	35.2	536	31.4	31.4
No	835	45.3	45.3	811	47.5	47.5
Factual books about science						
Blank	366	19.8	19.8	371	21.7	21.7
Yes	835	45.3	45.3	669	39.2	39.2
No	644	34.9	34.9	666	39.0	39.0
Factual books about technology						
Blank	384	20.8	20.8	378	22.1	22.2
Yes	738	40.0	40.0	615	36.0	36.0
No	723	39.2	39.2	713	41.8	41.8
Factual books about animals						
Blank	288	15.6	15.6	292	17.1	17.1
Yes	1166	63.2	63.2	946	55.4	55.5
No	391	21.2	21.2	468	27.4	27.4
Factual books about sport						
Blank	366	19.8	19.9	376	22.0	22.1
Yes	659	35.7	35.8	545	31.9	32.0
No	816	44.2	44.3	784	45.9	46.0

ENGLISH	PRE N	%	valid %	POST N	%	valid %
26. Do you read in English for pleasure every day?						
Books						
Yes	1136	61.6	64.0	1029	60.3	63.0
No	640	34.7	36.0	604	35.4	37.0
No response	69	3.7		72	4.2	
Newspapers						
Yes	200	10.8	11.9	268	15.7	17.2
No	1475	79.9	88.1	1290	75.6	82.8
No response	170	9.2		148	8.7	
Comics						
Yes	790	42.8	45.8	725	42.5	45.7
No	934	50.6	54.2	862	50.5	54.3
No response	121	6.6		118	6.9	
27. Time spent reading for pleasure in English outside school each week						
More than 6 hours	13	.7	.7	36	2.1	2.1
Between 3 and 6 hours	73	4.0	4.0	128	7.5	7.5
Between 1 and 3 hours	451	24.4	24.6	440	25.8	25.9
Less than 1 hour	937	50.8	51.0	757	44.3	44.6
I never read English	362	19.6	19.7	336	19.7	19.8
No response	9	.5		9	.5	
28. How often do you finish the books you read for pleasure in English?						
Always	163	8.8	11.1	230	13.5	16.8
Usually	772	41.8	52.7	812	47.6	59.4
Not often	513	27.8	35.0	308	18.0	22.5
Never	17	.9	1.2	16	.9	1.2
No response	380	20.6		340	19.9	
29. How often do you finish a book for pleasure in English?						
More than one a week	166	9.0	11.4	306	17.9	22.4
At least one a month	759	41.1	52.0	725	42.5	53.1
Fewer than one a month	534	28.9	36.6	334	19.6	24.5
No response	386	20.9		341	20.0	

ENGLISH	PRE N	%	valid %	POST N	%	valid %
30. Time spent reading for pleasure in English at one sitting						
More than 1 hour	120	6.5	8.2	187	11.0	13.7
Between 30 and 60 mins	534	28.9	36.6	617	36.1	45.1
Between 15 and 30 mins	544	29.5	37.2	417	24.4	30.5
Less than 15 minutes	263	14.3	18.0	147	8.6	10.7
No response	384	20.8		338	19.8	
31. Sources of English books to read for pleasure						
Council library	834	45.2	45.2	730	42.8	42.9
ERS books				786	46.0	46.1
School library	936	50.7	50.7	406	23.8	23.8
Friends	254	13.8	13.8	296	17.3	17.4
Bookshop	432	23.4	23.4	234	13.7	13.7
Presents	214	11.6	11.6	616	36.1	36.1
32. Do you remember the last book you read for pleasure in English?						
Yes	243	13.2	16.9	315	18.5	23.4
No	1199	65.0	83.1	1031	60.4	76.6
No response	403	21.8		360	21.1	
32a. If "yes", write its title						
Blank	1382	74.9	75.2	1164	68.2	68.6
Title given	147	8.0	8.0	188	11.0	11.1
I don't remember it	309	16.7	16.8	345	20.2	20.3
Title not given (32=Yes)	6	.3		8	.5	
32b. Did you finish it?						
Blank	501	27.2	27.8	446	26.1	26.7
Yes	703	38.1	38.9	831	48.7	49.8
No	178	9.6	9.9	157	9.2	9.4
I don't remember	423	22.9	23.4	235	13.8	14.1
No response (32=Yes)	40	2.2		38	2.2	

ENGLISH	PRE N	%	valid %	POST N	%	valid %
33. Have you got a favourite book in English?						
Yes	270	14.6	18.6	360	21.1	26.6
No	1179	63.9	81.4	994	58.2	73.4
No response	396	21.5		352	20.6	
33a. If "yes", write its title						
Blank	1568	85.0	87.9	1342	78.6	81.9
Title given	215	11.7	12.1	297	17.4	18.1
Title not given (33=Yes)	61	3.3		64	3.7	
33b. When did you last read it?						
Blank	785	42.5	42.9	630	36.9	37.1
Three months ago	453	24.6	24.8	479	28.1	28.2
Six months ago	381	20.7	20.8	196	11.5	11.5
1 year ago	210	11.4	11.5	65	3.8	3.8
Recently (POST)				329	19.3	19.4
No response (33=Yes)	16	.9		8	.5	
34. How many English books (approximately) of your own have you got at home?						
More than 20	55	3.0	3.0	78	4.6	4.6
Between 10 and 20	104	5.6	5.7	113	6.6	6.7
Between 5 and 10	264	14.3	14.4	256	15.0	15.2
Between 1 and 5	854	46.3	46.7	797	46.7	47.3
None	552	29.9	30.2	440	25.8	26.1
No response	16	.9		22	1.3	

ENGLISH	PRE N	%	valid %	POST N	%	valid %
35. Order of preference for English reading						
Reading silently to yourself						
Like best	916	49.6	52.9	1098	64.3	67.8
Like second best	374	20.3	21.6	283	16.6	17.5
Like least	443	24.0	25.6	239	14.0	14.8
No response	111	6.0		84	4.9	
Reading aloud						
Like best	239	13.0	13.8	200	11.7	12.6
Like second best	779	42.2	45.0	772	45.2	48.5
Like least	713	38.6	41.2	619	36.3	38.9
No response	114	6.2		115	6.7	
Being read to by someone else						
Like best	583	31.6	33.6	338	19.8	21.2
Like second best	579	31.4	33.4	528	30.9	33.1
Like least	572	31.0	33.0	727	42.6	45.6
No response	111	6.0		113	6.6	
36. Does anyone else in your family read English?						
Yes	823	44.6	45.6	666	39.0	39.9
No	983	53.3	54.4	1003	58.8	60.1
No response	39	2.1		37	2.2	
36a. If "yes", who?						
Blank	1007	54.6	55.2	1030	60.3	61.6
Mother	125	6.8	6.9	108	6.3	6.5
Father	264	14.3	14.5	190	11.1	11.4
Siblings	385	20.9	21.4	311	18.2	18.6
Others	43	2.3	2.4	33	2.0	2.0
Person not given	21	1.1		34	2.0	
36b. Do they ever help you with your reading?						
Blank	189	10.3	10.3	207	12.1	12.1
Yes	841	45.6	45.6	609	35.7	35.7
No	814	44.1	44.1	889	52.1	52.1

ENGLISH	PRE N	%	valid %	POST N	%	valid %
37. Do you ever discuss what you are reading in English with anyone?						
Yes	306	16.6	16.8	321	18.8	19.2
No	1519	82.3	83.2	1352	79.2	80.8
No response	20	1.1		34	2.0	
37a. If "yes", who?						
Blank	1537	83.3	83.3	1380	80.8	80.8
Mother	20	1.1	1.1	9	.5	.5
Father	30	1.6	1.6	22	1.3	1.3
Siblings	41	2.2	2.2	34	2.0	2.0
Classmates	96	5.2	5.2	138	8.1	8.1
Friends	73	4.0	4.0	85	5.0	5.0
Others	31	1.7	1.7	16	.9	.9
Person not given	17	.9	.9	23	1.3	1.3
38. Reading strategies for unknown words in English						
Guess	703	38.1	38.1	681	39.9	39.9
Use a dictionary	1280	69.4	69.4	1135	66.5	66.5
Ask your teacher	321	17.4	17.4	256	15.0	15.0
Ask your friends	323	17.5	17.5	310	18.2	18.2
Ignore it and continue	270	14.6	14.6	264	15.5	15.5
Stop reading	26	1.4	1.4	48	2.8	2.8
39. Reading strategies for texts in English						
Quickly for main ideas	585	31.7	32.3	596	34.9	35.5
Slowly for each word	1228	66.6	67.7	1081	63.3	64.5
No response	32	1.7		30	1.8	
40. Do you always read at the same speed?						
Yes	415	22.5	23.1	393	23.0	23.7
No	1379	74.7	76.9	1267	74.2	76.3
No response	51	2.8		47	2.8	

ENGLISH	PRE N	%	valid %	POST N	%	valid %
41. Measures to improve English reading at school						
Easier books	992	53.8	53.8	992	58.1	58.1
A wider choice of books	1494	81.0	81.0	1351	79.1	79.2
More attractive books	1079	58.5	58.5	924	54.1	54.2
Better access to books	660	35.8	35.8	608	35.6	35.6
More time for reading	874	47.4	47.4	712	41.7	41.8
Credit in the school exam	622	33.7	33.7	572	33.5	33.6
42. Exposure to English outside the classroom						
42a. Exposure to English: Listening						
Often	326	17.7	18.2	346	20.3	22.6
Sometimes	876	47.5	48.9	743	43.5	48.4
Rarely	430	23.3	24.0	347	20.3	22.6
Never	161	8.7	9.0	98	5.7	6.4
No response	52	2.8		173	10.1	
Mean	2.238	s.d.	.851	2.128	s.d.	.831
42b. Exposure to English: Speaking						
Often	270	14.6	15.1	379	22.2	24.6
Sometimes	679	36.8	37.9	614	36.0	39.8
Rarely	650	35.2	36.3	433	25.4	28.1
Never	193	10.5	10.8	116	6.8	7.5
No response	53	2.9		16	59.7	
Mean	2.427	s.d.	.873	2.185	s.d.	.891
42c. Exposure to English: Reading						
Often	418	22.7	23.2	349	20.4	22.1
Sometimes	846	45.9	47.1	788	46.2	49.8
Rarely	448	24.3	24.9	380	22.3	24.0
Never	86	4.7	4.8	64	3.7	4.0
No response	47	2.5		126	7.4	
Mean	2.112	s.d.	.813	2.101	s.d.	.783
42d. Exposure to English: Writing						
Often	642	34.8	35.8	496	29.1	31.5
Sometimes	636	34.5	35.5	601	35.2	38.2
Rarely	387	21.0	21.6	400	23.4	25.4
Never	128	6.9	7.1	76	4.5	4.8
No response	52	2.8		134	7.9	
Mean	2.001	s.d.	.927	2.036	s.d.	.873

ENGLISH	PRE N	%	valid %	POST N	%	valid %
43. Medium of instruction in primary school						
English	203	11.0	11.2	260	15.2	15.6
Chinese	1606	87.0	88.8	1404	82.2	84.4
No response	36	2.0		43	2.5	
44. Extensive reading scheme in primary school						
Yes	837	45.4	46.2	715	41.9	42.9
No	975	52.8	53.8	950	55.7	57.1
No response	33	1.8		42	2.5	
45. Books used in primary school reading scheme						
No programme	967	52.4	52.4	951	55.7	55.7
Chinese books	162	8.8	8.8	167	9.8	9.8
English books	66	3.6	3.6	72	4.2	4.2
Both English and Chinese	639	34.6	34.6	510	29.9	29.9
Not specified	11	.6	.6	7	.4	.4

PRE-POST COMPARISON: CONSTRUCTED VARIABLES

	PRE			POST		
CHINESE	**N**	**%**	**valid %**	**N**	**%**	**valid %**
46. Sum of sources of difficulty						
None	158	8.6	8.6	179	10.5	10.5
One	809	43.8	44.2	770	45.1	45.2
Two	573	31.1	31.3	505	29.6	29.7
Three	210	11.4	11.5	175	10.3	10.3
Four	79	4.3	4.3	73	4.3	4.3
No response	16	.9		5	.3	
Mean	1.586	s.d.	.951	1.526	s.d.	.961
47. Total numbers of books named						
None	636	34.5	34.5	844	49.4	49.4
One	556	30.1	30.1	449	26.3	26.3
Two	375	20.3	20.3	237	13.9	13.9
Three	278	15.1	15.1	177	10.4	10.4
Mean	1.160	s.d.	1.061	1.852	s.d.	1.013
ENGLISH						
48. Sum of sources of difficulty						
None	42	2.3	2.3	53	3.1	3.1
One	579	31.4	31.7	621	36.4	36.5
Two	576	31.2	31.5	494	28.9	29.0
Three	363	19.7	19.9	297	17.4	17.5
Four	268	14.5	14.7	236	13.8	13.9
No response	17	.9		6	.4	
Mean	2.129	s.d.	1.085	2.025	s.d.	1.104
49. Total numbers of books named						
None	1561	84.6	84.6	1335	78.2	78.2
One	206	11.2	11.2	259	15.2	15.2
Two	78	4.2	4.2	113	6.6	6.6
Mean	.196	s.d.	.492	.284	s.d.	.580

APPENDIX 6

HONG KONG ERS SURVEY: TABLES RELATING TO DISCUSSION IN CHAPTER 8

Table 6/1: Chinese reading: examples of changes in the amount of reading done (percentages)

	PRE	POST	Change
Reading books for pleasure daily	59.1	56.1	-3.0
Discussing their reading	36.4	32.7	-3.7
Having others in family who read	75.0	70.2	-4.8
Using the school library	66.1	49.8	-16.3
Currently reading a book for pleasure*	34.9	25.1	-9.8
Able to remember last book read*	46.5	37.1	-9.4
Possessing a favourite book*	52.4	44.6	-7.8
Mentioning no book by name	34.4	49.4	+15.0
Claiming never to read	4.4	8.7	+4.3
Numbers:	1845	1707	

* Excluding non-responses

Table 6/2: English reading: examples of changes in the amount of reading done (percentages)

	PRE	POST	Change
Reading books for pleasure daily	61.6	60.3	-1.3
Discussing their reading	16.6	18.8	+2.2
Having others in family who read	44.6	39.0	-5.6
Using the school library	50.7	23.8	-26.9
Able to remember last book read*	16.9	23.4	+6.5
Possessing a favourite book*	18.6	26.6	+8.0
Mentioning no book by name	84.6	78.2	-6.4
Claiming never to read	19.6	19.7	+0.1
Numbers:	1845	1707	

* Excluding non-responses

Table 6/3: Percentage of students rating different adult reading purposes as 'not very important' or 'not important at all'

	PRE	POST
Numbers	1845	1707
To increase knowledge	10.3	11.5
To get information	12.2	14.1
For study or work	16.1	15.2
To help with life	29.4	32.3
For pleasure	49.7	49.9

Table 6/4a: Pre - Post comparison: YES responses to reading preferences (z scores): CHINESE

Pre			Post			
Genre	%	z score	Genre	%	z score	Diff (post-pre)
Humour	78.97	1.78	Humour	75.45	1.99	0.21
Animals	72.52	1.35	Animals	63.33	1.10	-0.25
Adventure	70.41	1.22	Adventure	62.33	1.03	-0.32
Science fiction	64.55	0.83	Science fiction	61.75	0.99	0.16
Comics	62.93	0.72	Comics	64.62	1.20	0.48
Science	60.81	0.58	Science	50.03	0.13	-0.45
Fantasy	58.32	0.42	Fantasy	54.77	0.48	0.06
Hobby magazines	54.85	0.19	Hobby magazines	47.51	-0.06	-0.25
Technology	53.93	0.13	Technology	45.46	-0.21	-0.34
Newspapers	53.71	0.12	Newspapers	53.02	0.35	0.23
Classics	50.62	-0.09	Classics	47.98	-0.02	0.07
History	49.92	-0.13	History	42.24	-0.44	-0.31
Stories from abroad	49.00	-0.19	Stories from abroad	45.58	-0.20	-0.01
Sport (fact)	46.12	-0.38	Sport (fact)	41.53	-0.49	-0.11
Sport stories	41.46	-0.69	Sport stories	34.74	-0.99	-0.30
Romance	35.77	-1.07	Romance	43.06	-0.38	0.69
News magazines	32.95	-1.25	News magazines	32.51	-1.16	0.09
Kung Fu stories	28.67	-1.53	Kung Fu stories	32.16	-1.18	0.35
Westerns	21.57	-2.00	Westerns	19.04	-2.14	-0.14
$\bar{x}$ =	51.95		$\bar{x}$ =	48.27		
sd =	15.19		sd =	13.64		

Ordered by size of change (+ figures = improvements; - figures = declines)

Romance	0.69
Comics	0.48
Kung Fu stories	0.35
Newspapers	0.23
Humour	0.21
Science fiction	0.16
News magazines	0.09
Classics	0.07
Fantasy	0.06
Stories from abroad	-0.01
Sport (fact)	-0.11
Westerns	-0.14
Animals	-0.25
Hobby magazines	-0.25
Sport stories	-0.30
History	-0.31
Adventure	-0.32
Technology	-0.34
Science	-0.45

Table 6/4b: Pre - Post comparison: YES responses to reading preferences (z scores): ENGLISH

Pre			Post			
Genre	%	z score	Genre	%	z score	Diff (post-pre)
Humour	73.77	2.21	Humour	71.65	2.37	0.16
Animals	63.20	1.49	Animals	55.42	1.18	-0.31
Adventure	52.90	0.79	Adventure	50.09	0.79	0
Science fiction	44.12	0.19	Science fiction	43.64	0.32	0.13
Comics	64.01	1.55	Comics	62.27	1.68	0.13
Science	45.26	0.27	Science	39.19	-0.01	-0.28
Fantasy	36.69	-0.20	Fantasy	38.14	-0.08	0.12
Hobby magazines	42.49	0.08	Hobby magazines	36.97	-0.17	-0.25
Technology	40.00	-0.09	Technology	36.03	-0.24	-0.15
Newspapers	24.77	-1.12	Newspapers	24.60	-1.07	0.05
Classics	36.69	-0.31	Classics	36.03	-0.24	0.07
History	35.18	-0.41	History	31.40	-0.58	-0.17
Stories from abroad	42.49	0.08	Stories from abroad	38.25	-0.07	-0.15
Sport (fact)	35.72	-0.38	Sport (fact)	31.93	-0.54	-0.16
Sport stories	32.30	-0.61	Sport stories	29.17	-0.74	-0.13
Romance	30.35	-0.74	Romance	41.18	0.14	0.88
News magazines	19.02	-1.51	News magazines	17.52	-1.59	-0.08
Westerns	22.01	-1.31	Westerns	23.14	-1.18	0.13
$\bar{x}$ =	41.26		$\bar{x}$ =	39.26		
sd =	14.68		sd =	13.66		

Ordered by size of change (+ figures = improvements; - figures = declines)

Romance	0.88
Humour	0.16
Science fiction	0.13
Comics	0.13
Westerns	0.13
Fantasy	0.12
Classics	0.07
Newspapers	0.05
Adventure	0
News magazines	-0.08
Sport stories	-0.13
Technology	-0.15
Stories from abroad	-0.15
Sport (fact)	-0.16
History	-0.17
Hobby magazines	-0.25
Science	-0.28
Animals	-0.31

Figure 6/1: Pre - Post comparison: YES responses to reading preferences: CHINESE

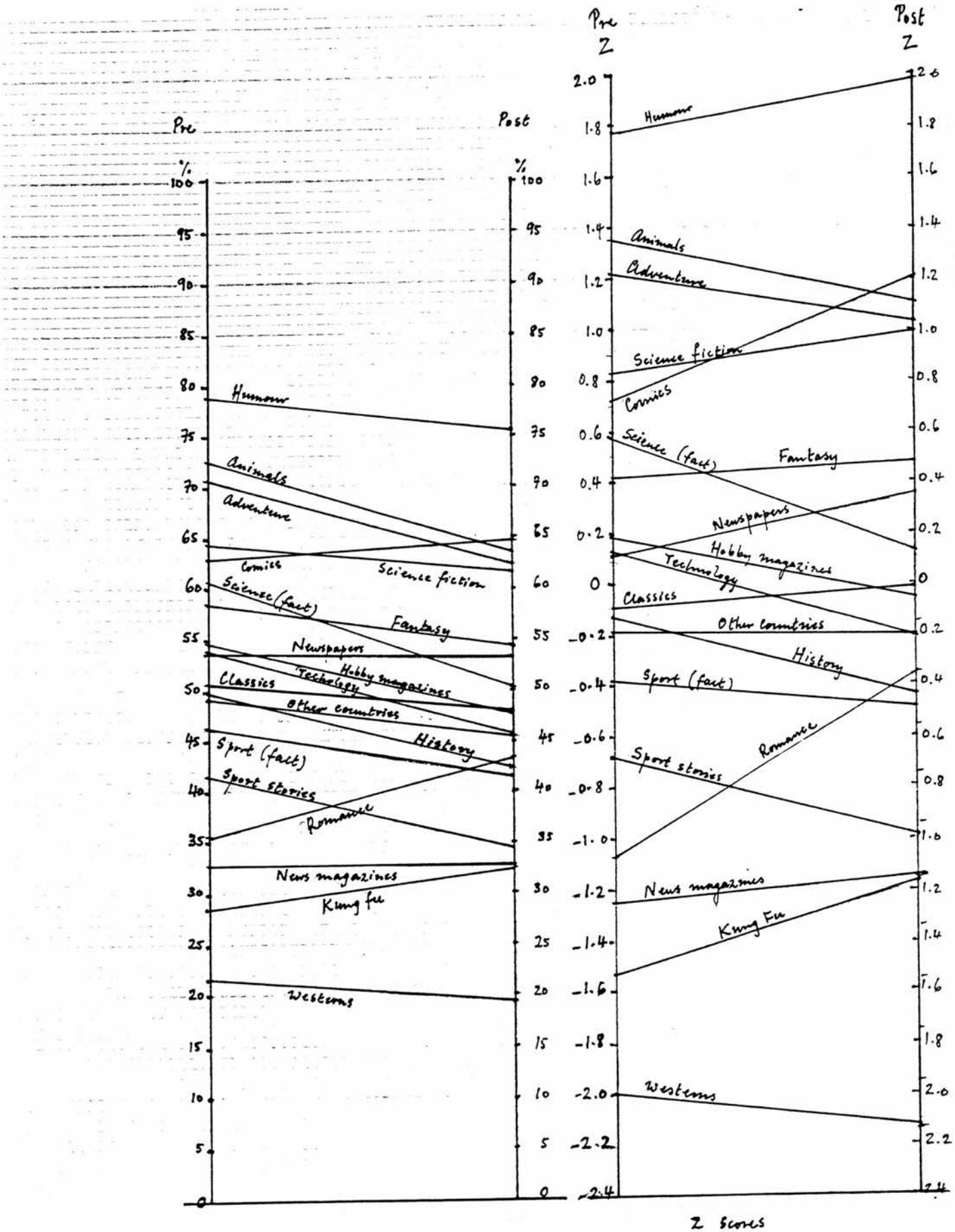
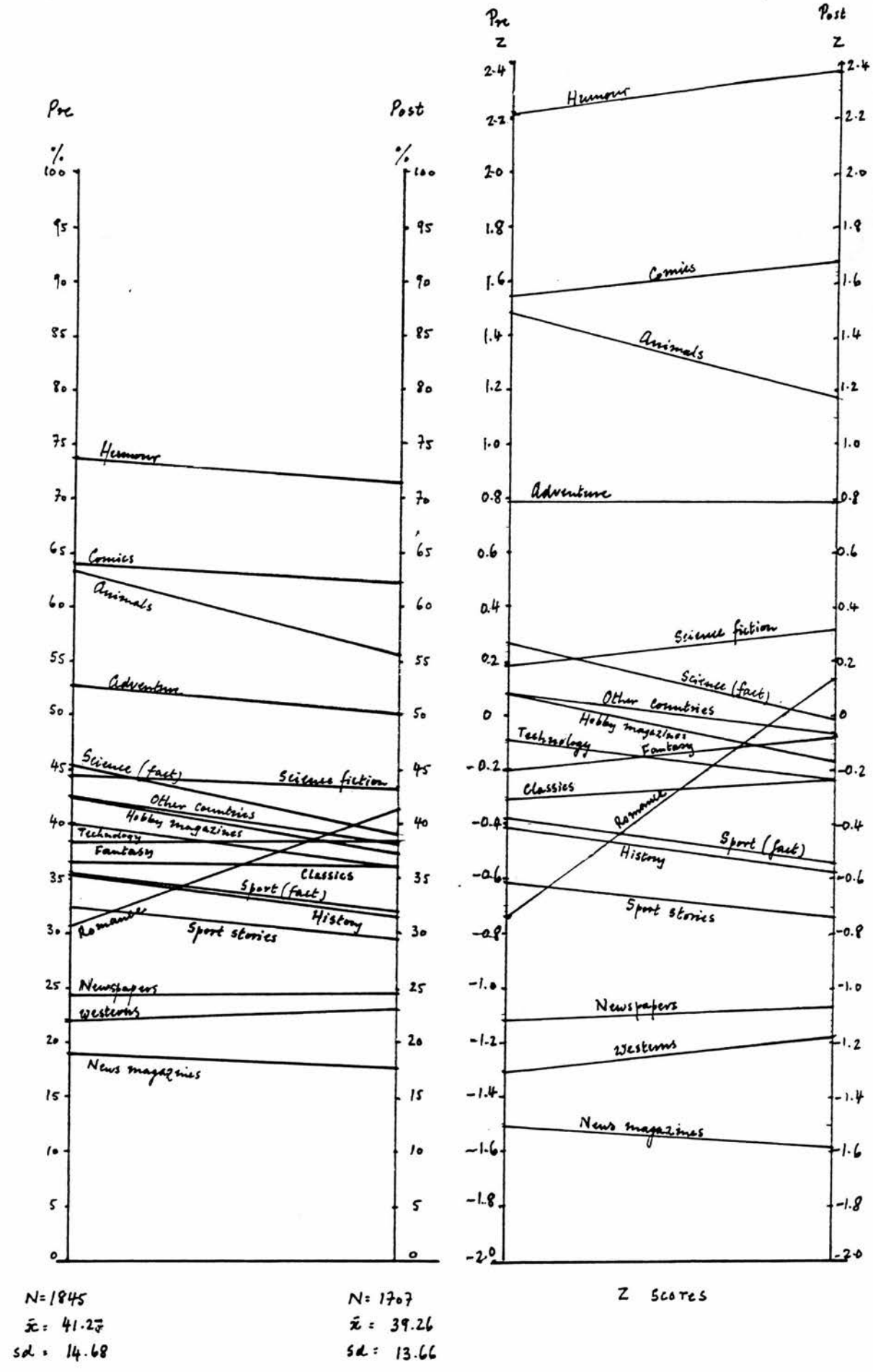


Figure 6/2: Pre - Post comparison: YES responses to reading preferences: ENGLISH



N = 1845
$\bar{x}$ = 41.27
sd = 14.68

N = 1707
$\bar{x}$ = 39.26
sd = 13.66

Table 6/5a: Reading preferences in Chinese and English (percentages) by gender and socioeconomic background: PRE

	CHINESE				ENGLISH			
	White collar		Manual		White collar		Manual	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
GENRE	N=232	N=520	N=357	N=552	N=232	N=520	N=357	N=552
Fiction								
COMICS	73.3	60.6	79.0	52.2	69.4	64.4	68.9	59.6
FANTASY	61.6	60.6	55.7	56.1	38.8	41.5	35.3	36.8
ADVENTURE	75.0	66.3	75.1	68.9	56.9	52.5	52.9	51.5
ROMANCE	27.6	43.9	20.2	43.5	22.8	38.7	15.7	35.1
WESTERNS	34.1	19.4	27.2	15.0	31.9	22.9	24.1	15.2
SCI-FI	77.6	58.3	74.8	57.8	53.0	43.8	48.7	37.9
SPORT	56.9	32.7	63.0	31.0	43.5	28.9	46.2	25.0
HUMOUR	78.0	81.7	77.9	79.4	72.8	77.9	65.8	78.1
ABROAD	46.6	54.4	35.9	53.1	35.3	51.9	26.6	47.3
CLASSICS	35.8	61.7	31.7	57.8	25.4	47.3	18.8	40.4
KUNG FU	44.0	21.9	42.0	19.8				
Non-fiction								
NEWSPAPERS	51.3	54.2	52.4	54.5	20.7	26.2	23.8	25.4
NEWS MAGS	37.1	34.2	30.3	32.3	24.1	19.2	18.2	17.9
HOBBY MAGS	53.9	54.2	54.3	56.7	42.2	47.1	37.0	43.7
HISTORY	58.2	43.1	56.3	46.2	45.7	32.1	36.4	31.9
SCIENCE	75.0	52.3	76.8	51.1	61.2	39.2	57.1	35.3
TECHNOLOLGY	77.6	43.5	77.9	38.0	59.1	32.7	58.5	27.2
ANIMALS	72.4	70.0	79.8	70.7	65.1	68.7	62.5	63.4
SPORT	62.9	40.4	65.8	34.4	52.1	32.7	46.8	26.4

Table 6/5b: Reading preferences in Chinese and English (percentages) by gender and socioeconomic background: POST

	CHINESE				ENGLISH			
	White collar		Manual		White collar		Manual	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
GENRE	N=175	N=452	N=272	N=475	N=175	N=451	N=272	N=475
Fiction								
COMICS	73.1	56.7	84.7*	54.7*	66.3	62.3	66.5	58.3
FANTASY	57.1	52.9	55.9	54.1	36.6	40.6	38.2*	37.3*
ADVENTURE	66.9	59.1	66.9	61.3	56.0	49.9	43.8	52.6*
ROMANCE	22.3	54.0*	20.6	56.0*	20.6	52.6*	22.1*	55.2*
WESTERNS	24.0	18.1	22.1	13.7	32.0*	23.3*	25.7*	17.7*
SCI-FI	73.1	56.4	73.9	51.4	58.9*	41.0	47.1	38.3*
SPORT	48.0	24.9	54.4	25.3	39.4	24.0	38.6	23.8
HUMOUR	72.6	74.8	77.9	78.1	68.0	76.3	66.5*	76.2
ABROAD	42.3	50.9	34.6	49.1	30.3	45.2	26.5	42.7
CLASSICS	36.6*	54.9	32.7*	59.8*	25.7	45.2	21.8*	41.7*
KUNG FU	40.0	25.2	47.8*	21.3*				
Non-fiction								
NEWSPAPERS	54.3*	54.7	52.6	53.5	28.0*	28.2	23.2	21.1
NEWS MAGS	40.0*	31.0	29.8	33.3*	23.4	19.1	14.3	14.7
HOBBY MAGS	46.9	49.8	40.4	51.8	35.4	38.8	29.4	42.3
HISTORY	57.1	33.0	50.0	39.0	38.9	26.6	34.6	30.1
SCIENCE	62.3	43.1	68.0	40.2	47.4	35.0	54.4	31.0
TECHNOLOLGY	68.0	36.3	67.6	31.8	50.9	29.1	50.7	26.1
ANIMALS	64.4	60.6	67.7	67.0	55.4	56.5	54.0	59.0
SPORT	55.4	32.5	60.3	29.9	44.0	27.7	38.8	25.2

* Representing increase or no change relative to PRE

Figure 6/3: Pre - Post comparison: YES responses to reading preferences by gender: CHINESE (z scores)

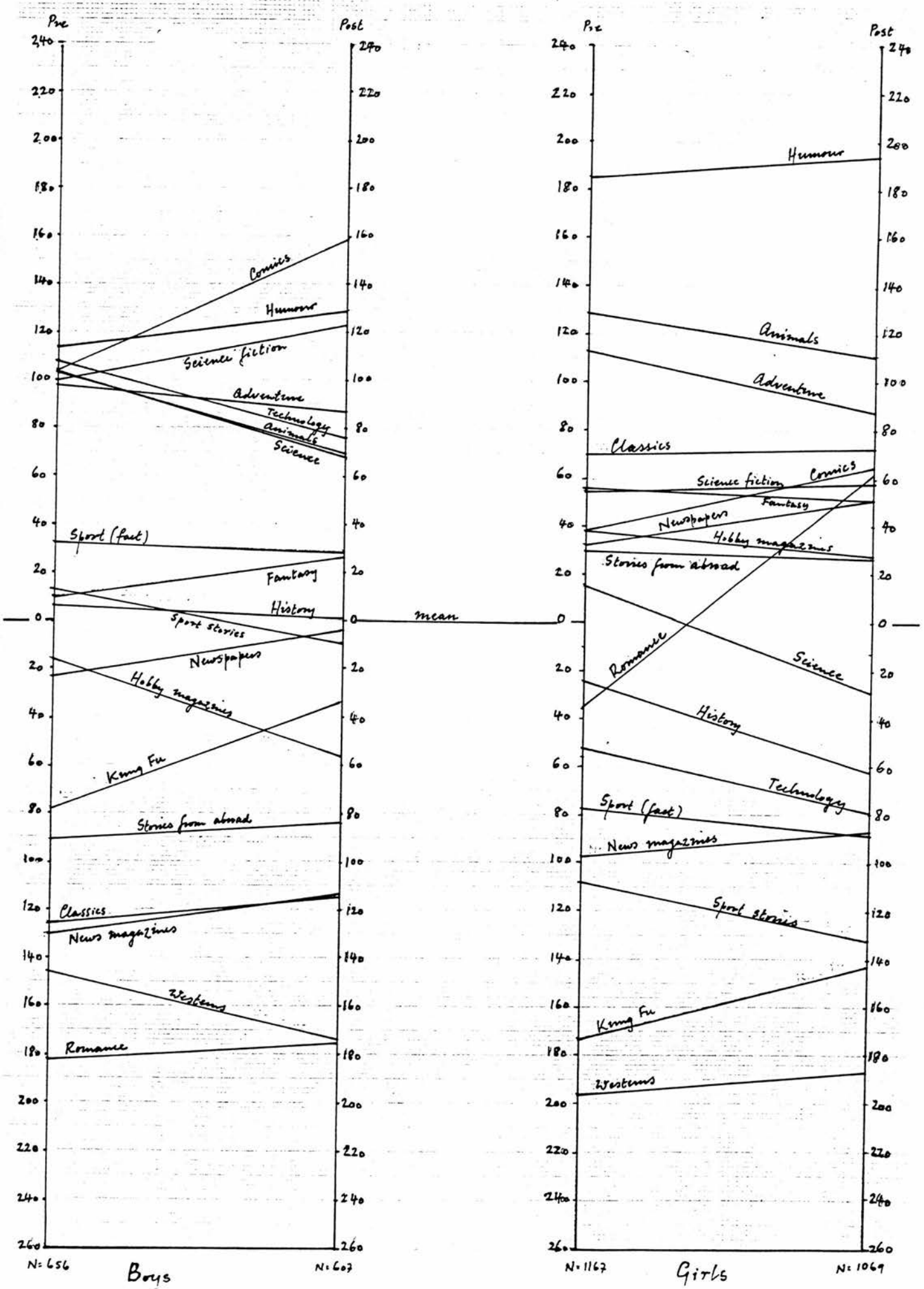


Figure 6/4: Pre - Post comparison: YES responses to reading preferences by gender: ENGLISH (z scores)

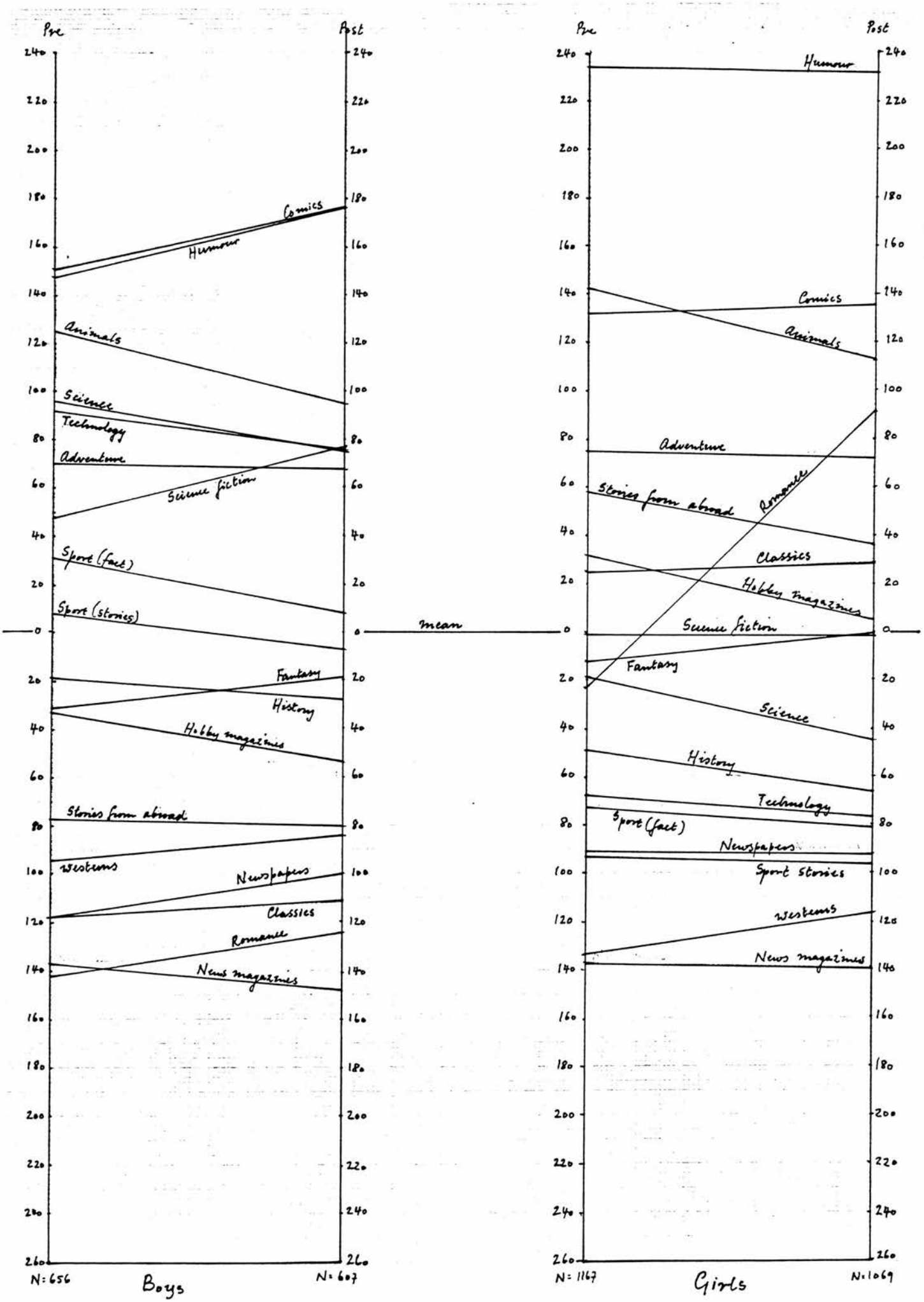


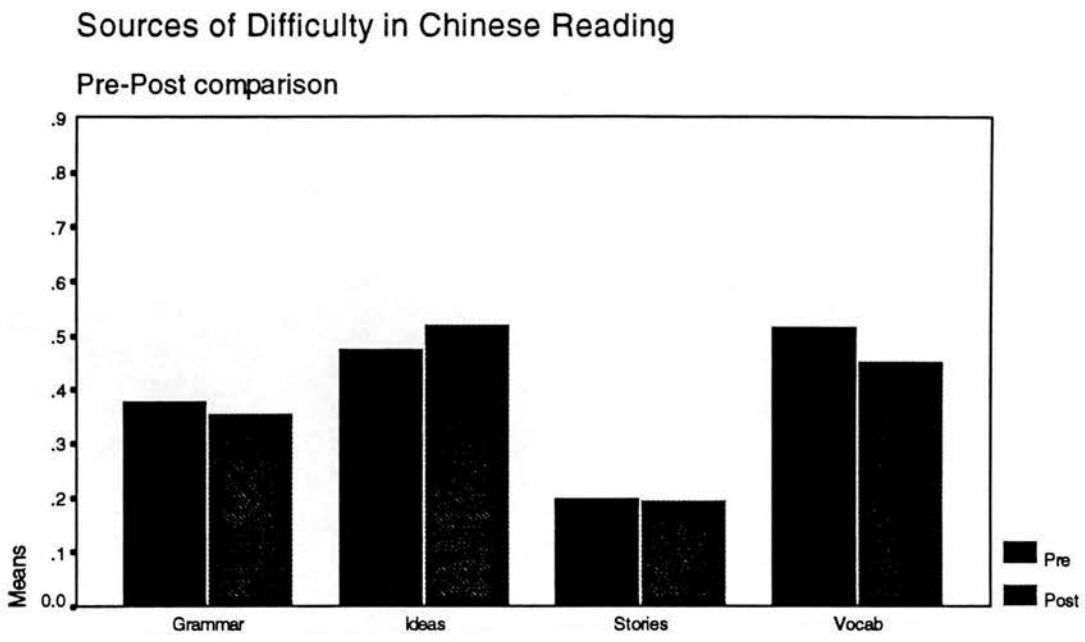
Table 6/6: sources of difficulty by gender

	PRE				POST			
	English		Chinese		English		Chinese	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Vocab	81.5	75.9	56.4	49.0	70.6	72.5	47.3	44.1
Grammar	62.8	56.7	39.0	37.5	61.9	58.0	34.4	36.6
Ideas	45.6	44.6	43.9	49.8	48.3	42.8	49.8	54.1
Stories	32.5	28.0	21.7	19.0	32.1	24.5	20.0	19.5
Numbers:	656	1167			609	1069		

Table 6/7: Preferences for silent reading & being read to, by gender and ease of reading

	PRE		POST	
	Chinese	English	Chinese	English
Being read to				
Population	31.5	33.6	21.6	21.2
Boys	36.7	40.6	28.4	29.5
Girls	28.7	29.8	17.9	16.8
Very easy	22.2	30.1	13.3	19.5
Sometimes difficult	43.0	40.3	28.4	36.9
Reading silently				
Population	57.8	52.9	70.1	67.8
Boys	51.2	45.8	65.6	61.6
Girls	61.6	56.7	72.7	71.0
Very easy	68.3	50.7	81.5	63.4
Sometimes difficult	45.2	47.7	60.4	53.6

Figure 6/5: Comparison of sources of difficulty in Chinese and English



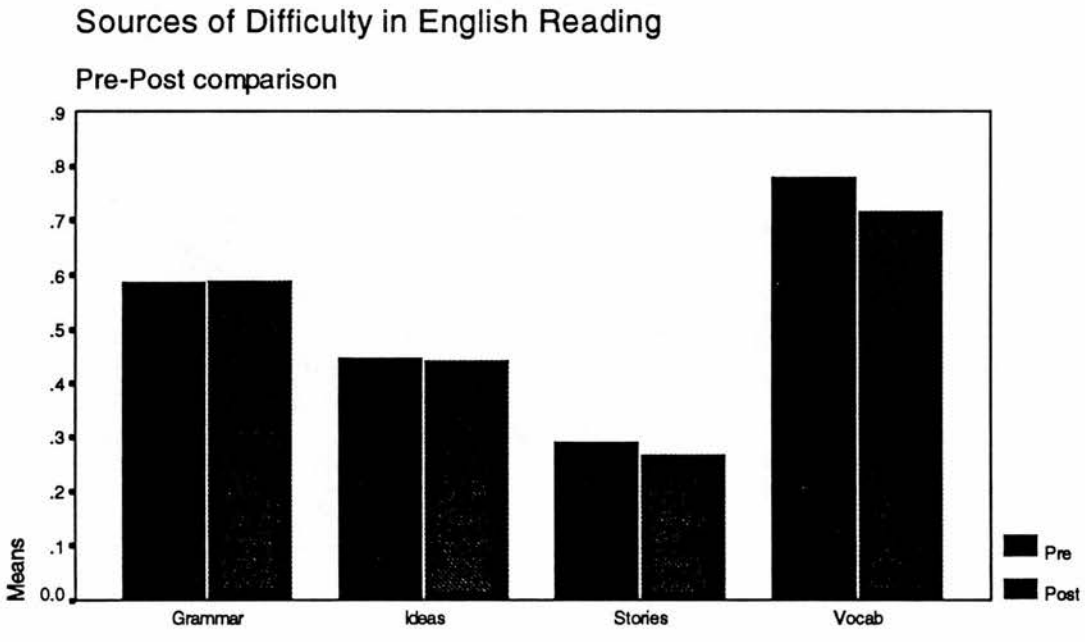


Table 6/8a: Reading indices compared: pre and post: CHINESE

CHINESE EASE	PRE Mean	s.d.	POST Mean	s.d.	change
Population	1.5962	1.097	1.6239	1.112	up
Boys	1.5854	1.085	1.6453	1.071	up
Girls	1.6027	1.105	1.6093	1.135	up
White collar	1.6169	1.094	1.6730	1.137	up
Boys	1.6767	1.106	1.7086	1.099	up
Girls	1.5885	1.089	1.6549	1.150	up
Manual	1.5820	1.103	1.5556	1.076	down
Boys	1.5042	1.088	1.6507	1.062	up
Girls	1.6359	1.109	1.5095	1.086	down

ACT	Mean	s.d.	Mean	s.d.	change
Population	3.7149	1.813	3.6221	2.001	down
Boys	3.4817	1.809	3.1609	1.989	down*
Girls	3.8510	1.810	3.8888	1.963	up
White collar	3.7728	1.793	3.7444	1.997	down
Boys	3.6250	1.826	3.3257	2.040	down
Girls	3.8327	1.783	3.9137	1.959	up
Manual	3.6971	1.836	3.5913	1.955	down
Boys	3.4398	1.793	3.0625	1.854	down*
Girls	3.8804	1.848	3.8863	1.949	up

HOME	Mean	s.d.	Mean	s.d.	change
Population	1.1599	.931	1.1125	.895	down
Boys	1.0259	.917	1.0099	.860	down
Girls	1.2312	.931	1.1785	.911	down
White collar	1.4227	.938	1.2937	.905	down*
Boys	1.2672	.943	1.3029	.900	up
Girls	1.4885	.929	1.2920	.910	down*
Manual	.9826	.887	1.0357	.893	up
Boys	.9076	.874	.9007	.829	down
Girls	1.0254	.889	1.1116	.920	up

Table 6/8b: Reading indices compared: pre and post: ENGLISH

ENGLISH

EASE	PRE		POST		
	Mean	s.d.	Mean	s.d.	change
Population	.9512	1.045	1.0240	1.056	up
Boys	.9299	1.050	1.0181	1.030	up
Girls	.9640	1.044	1.0206	1.066	up
White collar	1.1123	1.145	1.1079	1.100	down
Boys	1.1034	1.158	1.1200	1.115	up
Girls	1.1173	1.145	1.0951	1.089	down
Manual	.8219	.939	.9101	.994	up
Boys	.7815	.944	.9081	.966	up
Girls	.8478	.935	.9116	1.011	up

ACT					
	Mean	s.d.	Mean	s.d.	change
Population	2.2526	1.541	2.6690	1.816	up*
Boys	1.8948	1.499	2.1281	1.684	up*
Girls	2.4546	1.531	2.9794	1.819	up*
White collar	2.4584	1.596	2.9032	1.848	up
Boys	2.1336	1.618	2.5486	1.806	up
Girls	2.5942	1.570	3.0465	1.849	up*
Manual	2.0836	1.489	2.5754	1.773	up
Boys	1.7479	1.421	1.8713	1.582	up
Girls	2.3134	1.499	2.9726	1.752	up*

HOME					
	Mean	s.d.	Mean	s.d.	change
Population	.8320	.914	.9303	.946	up*
Boys	.7027	.846	.7192	.840	up
Girls	.9084	.945	1.0486	.978	up*
White collar	1.1413	1.004	1.1476	1.030	up
Boys	.9957	.969	.9371	.978	down
Girls	1.2038	1.017	1.2345	1.039	up
Manual	.5961	.760	.8492	.871	up*
Boys	.5378	.736	.6691	.783	up
Girls	.6377	.776	.9432	.895	up*

Table 6/8c: T-test statistics for pre - post comparisons (* = p<0.01)

CHINESE

	EASE		ACT		HOME	
	Pre	Post	Pre	Post	Pre	Post
Population						
Boys/Girls			*	*	*	*
W-c/Manual					*	*
Boys						
W-c/Manual					*	*
Girls						
W-c/Manual					*	*
White-collar						
Boys/Girls				*	*	
Manual						
Boys/Girls			*	*		*

ENGLISH

	EASE		ACT		HOME	
	Pre	Post	Pre	Post	Pre	Post
Population						
Boys/Girls			*	*	*	*
W-c/Manual	*	*	*	*	*	*
Boys						
W-c/Manual	*		*	*	*	*
Girls						
W-c/Manual	*	*	*		*	*
White-collar						
Boys/Girls			*	*	*	*
Manual						
Boys/Girls			*	*		*

NUMBERS

	PRE	POST
Population	1,845	1,707
Boys	656	609
Girls	1,168	1,070
White collar	757	630
Boys	232	175
Girls	520	452
Manual	921	756
Boys	357	272
Girls	552	475

Table 6/9: Correlations of Chinese and English reading indices

		EASE		ACT		HOME	
		Pre	Post	Pre	Post	Pre	Post
ACT	Chinese	.305*	.205*				
	English	.257*	.250*				
HOME	Chinese	.061*	.058*	.188*	.241*		
	English	.071*	.071*	.258*	.339*		
OWN	Chinese	.168*	.172*	.277*	.374*	.479*	.429*
BOOKS	English	.235*	.209*	.446*	.375*	.352*	.233*

* one-tailed significance. <.01

Table 6/10: Correlations of HOME with EASE and ACT by socioeconomic background; Chinese and English

	PRE		POST	
	W-c N=757	Manual N=921	W-c N=630	Manual N=756
Chinese				
EASE	.0639	.0792	.0441	.0661
ACT	.2153*	.1750*	.2537*	.2702*
English				
EASE	.0713	.0027	.0407	.0960*
ACT	.2526*	.2412*	.3165*	.3642*

* one-tailed significance. <.01

Table 6/11: Crosstabulation of frequency of finishing books and weekly time spent reading by reading speed: in Chinese and English; pre and post (percentages)

	Pre		Post	
	Fast[1]	Slow	Fast	Slow
CHINESE				
> 1 book a week	44.0	10.1	44.4	12.8
< 1 book a month	14.7	28.9	10.0	37.6
> 1 hour per week	30.1	4.8	27.1	6.9
< 1 hour per week	16.9	14.0	18.5	15.0
ENGLISH				
> 1 book a week	23.8	4.9	46.0	11.8
< 1 book a month	20.7	52.0	11.5	37.4
> 1 hour per week	16.7	19.4	16.2	6.4
< 1 hour per week	7.0	45.2	19.8	43.9

Table 6/12: Correlations of book sources with reading indices: post

	EASE		ACT		HOME	
Source	Chinese	English	Chinese	English	Chinese	English
ERS	...	-.029	...	.329*	...	.136*
Public library	.001	-.004	.	.	.041	.195*
School library	-.023	.031	.243*	.201*	.066*	.037
Friends	.016	.052	.152*	.187*	.146*	.179*
Bookshop	.043	.092*	.212*	.196*	.217*	.172*
Gifts	.006	.058	.125*	.334*	.	.

* one-tailed significance. <.005

[1] Fast = very fast + quite fast; Slow = quite slow + very slow

Figure 6/6: Comparison of use of book sources in Chinese and English

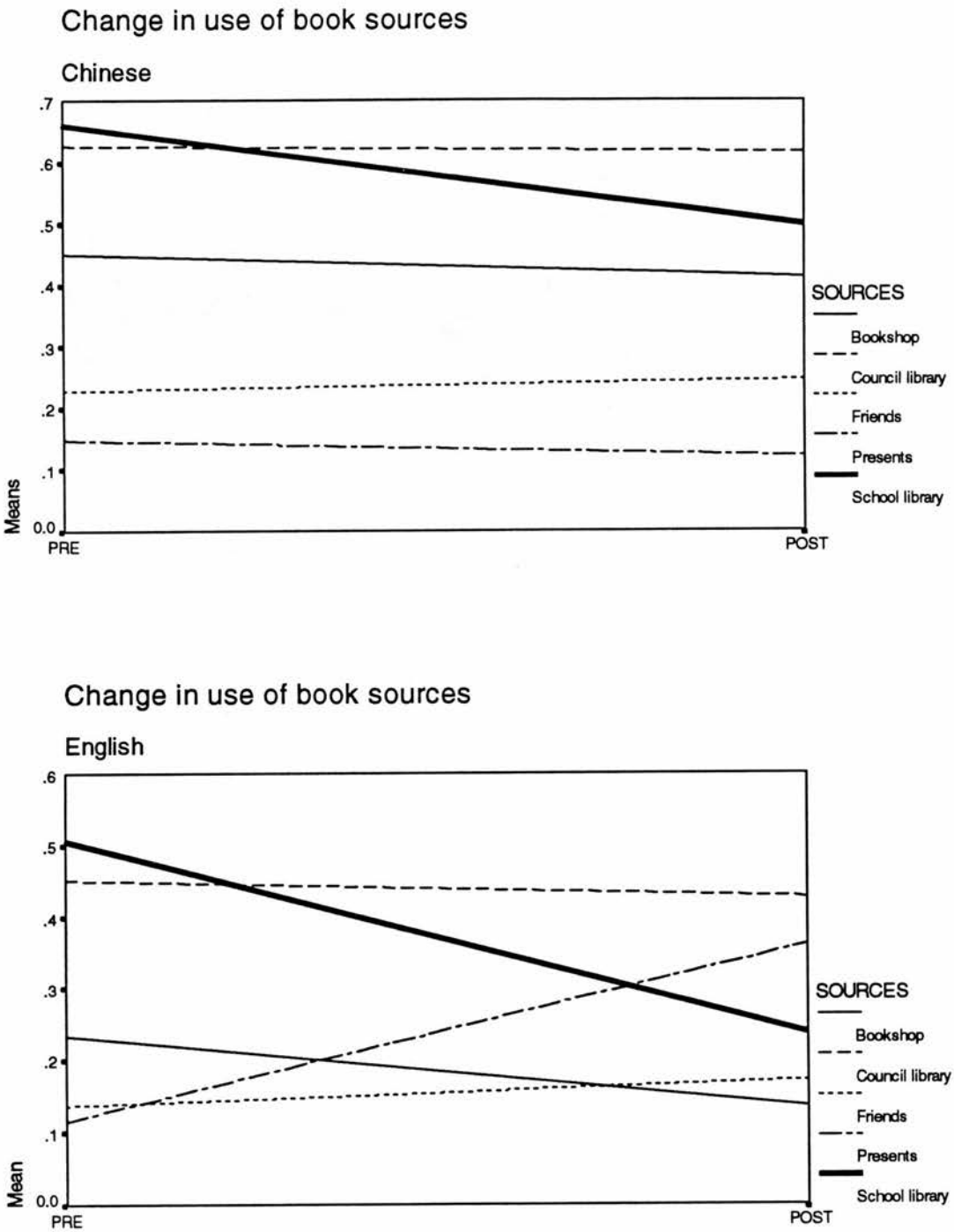


Table 6/13: Analysis of book sources: Chinese and English means by gender and socioeconomic category: pre and post[2]

6/13a: Gifts

		Pre				Post			
		English		Chinese		English		Chinese	
	N	Mean	s.d	Mean	s.d.	Mean	s.d.	Mean	s.d.
Boys									
white collar	(232)	.121	.327	.142	.350	.234	.425	.125	.333
manual	(356)	.065	.246	.092	.290	.320	.467	.096	.295
Girls									
white collar	(520)	.169	.375	.210	.407	.424	.496	.139	.347
manual	(552)	.132	.295	.129	.336	.448	.495	.137	.344

6/13b: Council library

		Pre				Post			
		English		Chinese		English		Chinese	
	N	Mean	s.d	Mean	s.d.	Mean	s.d.	Mean	s.d.
Boys									
white collar	(232)	.366	.483	.591	.493	.387	.489	.575	.496
manual	(357)	.426	.495	.616	.487	.327	.470	.583	.494
Girls									
white collar	(520)	.487	.500	.627	.484	.444	.497	.613	.488
manual	(532)	.484	.500	.661	.474	.510	.500	.699	.459

6/13c: Friends

		Pre				Post			
		English		Chinese		English		Chinese	
	N	Mean	s.d	Mean	s.d.	Mean	s.d.	Mean	s.d.
Boys									
white collar	(232)	.147	.354	.215	.412	.080	.272	.149	.357
manual	(357)	.118	.323	.193	.395	.132	.340	.250	.434
Girls									
white collar	(520)	.167	.374	.258	.438	.237	.426	.270	.444
manual	(532)	.127	.333	.223	.417	.177	.382	.248	.433

[2] Since the possibilities in this case were either 1 ('yes') or 0 ('blank'), the means can also be read as percentages of 'yes' responses, by moving the decimal point two places to the left.

Table 6/14: Percentages reading more than 1 hour per week

	PRE		POST	
	English	Chinese	English	Chinese
Whole population	29.2	64.6	35.4	62.7
Boys	24.5	61.7	26.3	53.2
White collar	28.9	65.7	38.9	57.0
Manual	21.8	60.7	21.7	51.9
Girls	31.8	66.3	41.0	68.0
White collar	35.7	65.7	42.4	71.6
Manual	27.5	67.1	40.6	66.6
ERS users			45.7	70.0
Non-users			26.9	56.4
Numbers: Population	1836	1827	1697	1693
Boys	653	648	609	601
Girls	1152	1158	1061	1064
ERS users			785	
Non-users			911	

Table 6/14a: Pre - post change in percentage reporting reading for more than one hour per week

	English	Chinese
Boys	+1.8	-8.5
While collar	+10.0	-8.7
Manual	-0.1	-8.8
Girls	+9.2	+1.7
While collar	+6.7	+5.9
Manual	+13.1	-0.5

Table 6/15: reported percentage of students reading more than 1 hour per week in English and Chinese; compared by primary reading programme

	PRE			POST		
	English	Chinese	N	English	Chinese	N
No programme	24.3	62.1	(963)	33.1	60.7	(944)
Chinese only	29.2	65.2	(161)	34.7	64.5	(167)
English only	43.9	56.9	(66)	42.3	62.5	(71)
Chinese and English	35.2	67.8	(635)	39.4	66.1	(508)

Table 6/16: Reported primary reading programmes by language medium (percentages)

	PRE		POST	
	English	Chinese	English	Chinese
Numbers	203	1606	260	1404
No programme	36.5	54.0	44.2	56.9
Chinese only	3.9	9.5	2.7	11.4
English only	13.3	2.4	15.8	2.1
Chinese and English	46.3	33.4	36.9	29.1

Table 6/17: Contact with English reading outside school and ability to name books

	PRE	N	POST	N
Naming one English book or more				
'Frequent' contact (1)	26.3	(418)	23.8	(349)
'Infrequent' contact (3+4)	7.9	(534)	21.6	(444)
White collar	20.3	(757)	25.1	(630)
Manual	11.1	(921)	21.8	(756)

Table 6/18: Comparison of 'frequent'[3] contact with English outside school by socioeconomic group

	PRE		POST	
	White collar	Manual	White collar	Manual
	N=739	N=896	N=585	N=688
Speaking	60.4	47.3*	65.2	60.2
Listening	71.9	63.3*	71.5	70.5
Reading	74.3	67.1	73.7	71.9
Writing	75.4	68.5	70.9	70.6

* Chi-square significance. <.001

[3] Students using English 'often' or 'sometimes' outside school

Table 6/19: Users of the ERS by gender and father's occupation

	Percentage	N
Boys	41.2	609
White collar	46.9	175
Manual	38.2	272
Girls	48.9	1068
White collar	45.9	451
Manual	52.3	474

Table 6/20: Books in the home by father's occupation (percentages)

	Professional		Managerial		Routine		Manual	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST
>20 books	37.4	39.7	44.8	39.5	45.1	34.9	24.8	25.8
<5 books	25.2	20.6	17.9	21.0	15.5	25.3	36.3	32.9
No books	6.8	6.9	5.8	4.6	5.3	6.0	13.0	8.0

Table 6/21: Correlations of daily pleasure reading in Chinese and English; pre and post

	Books		Newspapers	
	Pre	Post	Pre	Post
Newspapers				
Chinese	.004	.064*		
English	.085*	.140*		
Comics				
Chinese	.222*	.186*	-.037	-.061*
English	.279*	.277*	.035	.059

* p<.01

Table 6/22: Reported daily reading in Chinese and English

	PRE		POST	
	English	Chinese	English	Chinese
NEWSPAPERS				
Population	12.0	67.7	16.9	72.8
Boys	10.4	65.1	16.7	69.2
Girls	12.7	69.2	17.0	74.8
White collar	12.8	66.8	20.9	75.5
Boys	10.1	60.6	20.1	73.5
Girls	14.1	69.4	21.3	73.5
Manual	11.2	68.5	13.5	76.7
Boys	10.7	68.0	14.4	66.3
Girls	11.6	69.0	13.0	72.9
COMICS				
Population	45.7	34.3	45.6	41.3
Boys	47.0	50.3	43.8	56.0
Girls	45.0	25.0	46.7	32.7
White collar	47.0	33.9	48.6	41.1
Boys	47.3	48.9	49.7	55.8
Girls	46.8	27.0	48.1	35.0
Manual	45.5	34.7	44.5	41.3
Boys	48.8	51.2	42.4	58.1
Girls	43.3	23.4	45.7	31.7
BOOKS				
Population	64.0	62.8	62.9	60.2
Boys	54.4	59.6	47.5	52.5
Girls	69.3	64.6	71.6	64.5
White collar	69.6	62.8	69.9	61.9
Boys	58.0	59.9	57.6	53.4
Girls	74.8	63.8	74.8	65.2
Manual	58.8	63.1	61.1	60.0
Boys	51.5	58.9	42.1	52.8
Girls	63.4	65.7	71.8	64.0

Table 6/23a: Correlations of preferences for comics and newspapers with those for other genres: CHINESE[4]

	Comics		Newspapers	
GENRE	PRE	POST	PRE	POST
Fiction				
Comics			-.0209	-.0987*
Fantasy	.1412**	.1444**	-.0142	.0229
Adventure	.0589	.0791*	.0997**	.0613
Romance	.0307	-.0283	-.0486	.0335
Western	.0314	.0923*	.0936*	.0493
Sci-fi	.0220	.1372**	.0253	.0890*
Sport	.1255**	.1313**	.1144**	.0925*
Humour	.1843**	.1386**	.0298	.0228
Abroad	-.0517	-.0295	.2127**	.2186**
Classic	-.1176**	-.1093**	.2160**	.2413**
Kung fu	.1462**	.1993**	.0087	.0575
Non-fiction				
Newspapers	-.0209	-.0987*		
News mags	.0125	-.0579	.3404**	.2995**
Hobby mags	.0343	-.0188	.1320**	.1091**
History	.0169	.0120	.1559**	.1358**
Science	.0502	.0565	.0952*	.0911*
Technology	.0488	.1013**	.0635	.0703
Animals	.0289	.0513	.0432	.0921*
Sport	.1822**	.1305**	.0881*	.0959*
Indices				
Ease	-.0364	-.0310	.0672	.0730
Act	-.0002	-.0069	.1218**	.1285**
Home	-.0236	-.0014	.0721	.0732

1-tailed significance: * .01 ** .001

[4] Correlations based on YES and NO preferences, with zero responses excluded.

Table 6/23b: Correlations of preferences for comics and newspapers with those for other genres: ENGLISH

	Comics		Newspapers	
GENRE	PRE	POST	PRE	POST
Fiction				
Comics			.0654	.0236
Fantasy	.1154**	.1196**	.1002**	.0674
Adventure	.0935*	.0130	.1389**	.0774*
Romance	.0103	-.0017	.0804*	.0097
Western	.0317	.0246	.1172**	.0946*
Sci-fi	.0315	.0701	.1237**	.1110**
Sport	.0530	.1279**	.1180**	.1410**
Humour	.1879**	.2438**	.0301	.0619
Abroad	-.0339	.0032	.2177**	.1080**
Classic	-.0235	.0167	.2550**	.1296**
Non-fiction				
Newspapers	.0654	.0236		
News Mags	.0281	.0266	.4712**	.4022**
Hobby Mags	.1380**	.1090**	.1986**	.1566**
History	.0376	.0205	.2054**	.1368**
Science	.0898*	.0926*	.1453**	.0957*
Technology	.0994**	.0886*	.1161**	.1109**
Animals	.0749*	.0786*	.1022**	.0754*
Sport	.0668	.1164**	.1230**	.1281**
Indices				
Ease	-.0205	-.0284	.1426**	.0888*
Act	.0348	.0089	.2504**	.1115**
Home	.0542	.0183	.1135**	.0779*

1-tailed significance: * .01 ** .001

Table 6/24a: Correlations between reading indices and preferences for genres; pre and post: CHINESE[5]

	PRE			POST		
Genres	EASE	ACT	HOME	EASE	ACT	HOME
Comics	-.036	-.000	-.024	-.031	-.007	-.001
Fantasy	.049	.128**	.060	.085*	.133**	.052
Adventure	.053	.124**	.076*	.000	.093*	.087*
Romance	.028	.065	.009	.034	.050	.017
Westerns	.048	.166**	.036	.072	.059	.084*
Sci-fi	.099**	.100**	.012	.085*	.077*	.064
Sport	-.059	-.067	-.086*	-.032	-.076	.005
Humour	-.032	.014	.011	-.080*	.034	.001
Abroad	.044	.184**	.051	.012	.199**	.090*
Classics	.059	.201**	.107**	.054	.301**	.099*
Kung Fu	.125**	.072	.022	.085*	.083*	.037
Newspapers	.067	.129**	.072	.073	.126**	.073
News Mags	.053	.091*	.066	.030	.051	-.003
Hobby Mags	-.104**	-.019	.004	-.039	-.052	-.002
History	.079*	.142**	.074	.044	.133**	.067
Science	.017	.076*	-.051	.045	.069	.065
Technology	.018	.004	-.020	.056	.053	.052
Animals	-.064	.026	.076*	-.070	.027	-.005
Sport	-.085*	-.079*	.061	-.018	.027	-.005
Reading for pleasure daily[6]						
Books	.123**	.	.152**	.0635	.	.132**
Newspapers	.100**	.116**	.060	.070	.133**	.087*
Comics	-.001	.127**	.003	-.037	.101**	.025

1-tailed significance: * .01 ** .001

[5] Correlations based on YES and NO preferences, with zero responses excluded.

[6] Since the definition of ACT included reading books for pleasure daily, this correlation is omitted.

Table 6/24b: Correlations between reading indices and preferences for genres; pre and post: ENGLISH

	PRE			POST		
	EASE	ACT	HOME	EASE	ACT	HOME
Comics	-.021	.035	.054	-.028	.009	.018
Fantasy	.126**	.147**	.105**	.120**	.221**	.069
Adventure	.107**	.174**	.110**	.075	.265**	.134**
Romance	.086*	.072	.109**	.067	.143**	.067
Westerns	.051	.188**	.125**	.118**	.203**	.057
Sci-fi	.037	.109**	.069	.100**	.183**	.024
Sport	-.002	.030	.034	.015	-.038	.008
Humour	.046	.102**	.042	.004	.206**	.088*
Abroad	.121**	.292**	.136**	.075	.294**	.153**
Classics	.135**	.316**	.152**	.102**	.275**	.110**
Newspapers	.143**	.250**	.114**	.089*	.116**	.078*
News Mags	.115**	.160**	.104**	.123**	.149**	.029
Hobby Mags	.049	.129**	.121**	.057	.117**	.128**
History	.121**	.186**	.068	.102**	.221**	.086*
Science	.056	.128**	.072	.091*	.188**	.129**
Technology	-.013	.042	.021	.090*	.136**	.062
Animals	.068	.140**	.073	.039	.172**	.137**
Sport	.065	.078*	.067	.036	-.009	.016
Reading for pleasure daily[7]						
BOOKS	.159**	.	.238**	.146**	.	.224**
NEWSPAPERS	.174**	.217**	.170**	.125**	.216**	.081*
COMICS	.035	.256**	.119**	.055	.230**	.119**

1-tailed significance: * .01 ** .001

[7] Since the definition of ACT included reading books for pleasure daily, this correlation is omitted.

Table 6/25a: Percentage of those who discuss reading

	PRE				POST			
	English	N	Chinese	N	English	N	Chinese	N
Population	16.8		36.9		19.2		33.0	
Boys	13.4	647	31.0	642	11.6	596	23.6	602
White collar	18.0		35.7		15.5		28.7	
Manual	11.4		29.8		12.7		23.0	
Girls	18.5	1158	40.2	1159	23.6	1053	38.6	1060
White collar	20.3		36.9		25.4		38.0	
Manual	16.7		43.5		22.6		39.9	

Table 6/25b: Who reading is discussed with

	PRE			POST		
Chinese reading	N	%	%*	N	%	%*
Parents	83	4.5	12.2	56	3.3	10.0
Siblings	70	3.8	10.3	61	3.6	10.9
Classmates and friends	459	24.8	67.2	393	23.0	69.9
English reading						
Parents	50	2.7	16.2	31	1.8	9.5
Siblings	41	2.2	13.3	34	2.0	10.4
Classmates and friends	169	9.2	54.9	223	13.1	51.7

* As a percentage of those reporting discussion of reading

Table 6/26a: Help with English reading by father's occupation: pre and post

	PRE	N	POST	N
Population	46.5	(1741)	37.1	(1505)
Father's occupation				
Professional	56.3	(144)	48.8	(129)
Managerial	51.8	(386)	44.7	(322)
Routine office	61.0	(205)	46.1	(165)
Manual	39.4	(909)	30.5	(748)

Table 6/26b: Those reporting help with English reading by father's occupation by gender: pre and post

	PRE		POST	
	Boys	Girls	Boys	Girls
Population	43.0	48.6	31.7	38.9
White collar	51.6	56.5	42.7	47.6
Manual	36.6	41.7	25.8	32.9

Table 6/26c: Those reporting help with English reading by ease of reading: pre and post

	PRE	N	POST	N
Very easy/quite easy	47.5	(360)	40.2	(306)
Often difficult	35.5	(256)	27.1	(133)

Table 6/27: Actual reading: percentage mentioning one or more title

	PRE		POST	
	English	Chinese	English	Chinese
Boys	9.9	59.0	12.2	39.6
Girls	18.5	69.4	27.5	56.7
ERS users			30.7	55.6

Table 6/28a: Indices of ERS users and non-users compared: ENGLISH

	Mean	s.d.	Numbers
EASE			
Population	1.0246	1.056	1705
Non-users	1.0533	1.065	919
Boys	1.0726	1.082	358
Girls	1.0348	1.050	546
Users	.9911	1.046	786
Boys	.9402	.947	251
Girls	1.0077	1.086	522
ACT			
Population	2.6710	1.816	1705
Non-users	2.1186	1.677	919
Boys	1.6704	1.518	358
Girls	2.4267	1.713	546
Users	3.3168	1.759	786
Boys	2.7809	1.696	251
Girls	3.5651	1.743	522
HOME			
Population	.9308	.946	1705
Non-users	.8118	.910	919
Boys	.6508	.780	358
Girls	.9304	.974	546
Users	1.0700	.969	786
Boys	.8167	.911	251
Girls	1.1743	.967	522

Table 6/28b: Indices of ERS users and non-users compared: CHINESE

	Mean	s.d.	Numbers
EASE			
Population	1.6239	1.112	1707
Non-users	1.6139	1.071	904
Boys	1.6034	1.029	358
Girls	1.6209	1.099	546
Users	1.6352	1.158	773
Boys	1.7052	1.128	251
Girls	1.6015	1.177	522
ACT			
Population	3.6221	2.001	1707
Non-users	3.2832	2.020	904
Boys	2.8101	1.921	358
Girls	3.5934	2.025	546
Users	4.0298	1.905	773
Boys	3.6614	1.980	251
Girls	4.2069	1.843	522
HOME			
Population	1.1125	.895	1707
Non-users	1.0553	.897	904
Boys	.9274	.840	358
Girls	1.1392	.924	546
Users	1.1902	.891	773
Boys	1.1275	.876	251
Girls	1.2203	.898	522

Table 6/29: ERS users' reported use of other sources of English and Chinese books

	English		Chinese	
	ERS users	Non-users	ERS users	Non-users
Council library	56.8	30.9*	71.9	53.1*
School library	27.6	20.6	66.7	35.5*
Friends	19.5	15.5	27.9	21.9
Bookshop	15.6	12.1	45.7	37.2
Gifts	43.4	29.9*	14.9	10.0
Numbers: ERS users	786			
Non-users	919			

Table 6/30: Non-readers and use of the ERS by school

School	N of Chinese non-readers		Change	N of English non-readers		Change	% ERS use	% English titles >1	
	Pre	Post		Pre	Post			Pre	Post
01	2	9	7	12	23	11	64	22	13
02	2	7	5	13	11	-2	33	26	29
03	2	10	8	32	29	-3	44	13	16
04	6	5	-1	9	12	3	41	22	24
05	1	7	6	15	14	-1	58	16	14
06	7	8	1	25	19	-6	45	12	26
07	7	9	2	25	18	-7	26	14	34
08	3	5	2	18	16	-2	41	9	12
09	10	7	-3	22	30	8	29	18	9
10	7	8	1	17	23	6	43	20	22
11	3	3	0	29	11	-18	83	10	44
12	6	8	2	27	13	-14	55	3	18
13	1	5	4	4	6	2	56	33	46
14	6	26	20	29	33	4	47	16	14
15	6	11	5	18	21	3	25	14	10
16	4	12	8	21	29	8	44	19	30
17	4	2	-2	25	9	-16	35	4	18
18	2	2	0	12	10	-2	55	12	25
19	2	4	2	9	9	0	42	3	13

Table 6/31: Use of the ERS by ability band[8]

	Percentage	N
Upper bands (1&2)	52.8	703
Middle bands (2&3)	42.9	704
Lower bands (3)	37.9	298

[8] The classification of schools into these three categories is based on their approximate numbers of students in particular bands.

Table 6/32: Percentages indicating how English reading could be improved

	PRE	POST
Easier books		
Boys	58.9	61.2
Girls	50.9	56.0
ERS users		55.2
Non-users		60.6
More time		
Boys	44.4	37.6
Girls	49.1	44.6
ERS users		48.6
Non-users		35.9
Greater choice		
Boys	78.2	73.3
Girls	82.6	83.4
ERS users		84.2
Non-users		75.0
More attractive books		
Boys	56.1	52.4
Girls	59.9	55.8
ERS users		59.5
Non-users		49.7
Credit in exam		
Boys	35.6	31.9
Girls	32.6	34.9
ERS users		33.8
Non-users		33.3
Better access to books		
Boys	30.0	29.6
Girls	38.9	39.5
ERS users		41.9
Non-users		30.2

Table 6/33: Correlations between factors contributing to improved English in school

	EASIER BOOKS		CHOICE		ATTRACTIVE		TIME		EXAM	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Greater choice	.094*	.128*								
More attractive	-.163*	-.151*	.102*	.060*						
More time	-.099*	-.078*	-.002	.073*	.222*	.214*				
Credit in exam	.130	.117*	.067*	.061*	.014	.025	.058*	.054		
EASE	-.180*	-.187*	-.036	-.082	.074*	.011	.006	-.031	.025	-.005
ACT	-.218*	-.183*	.047	.159*	.193*	.174*	.157*	.225*	-.001	.025
HOME	-.097*	-.105*	.039	.096*	.118*	.136*	.081*	.108*	.043	.064*

* p<.01